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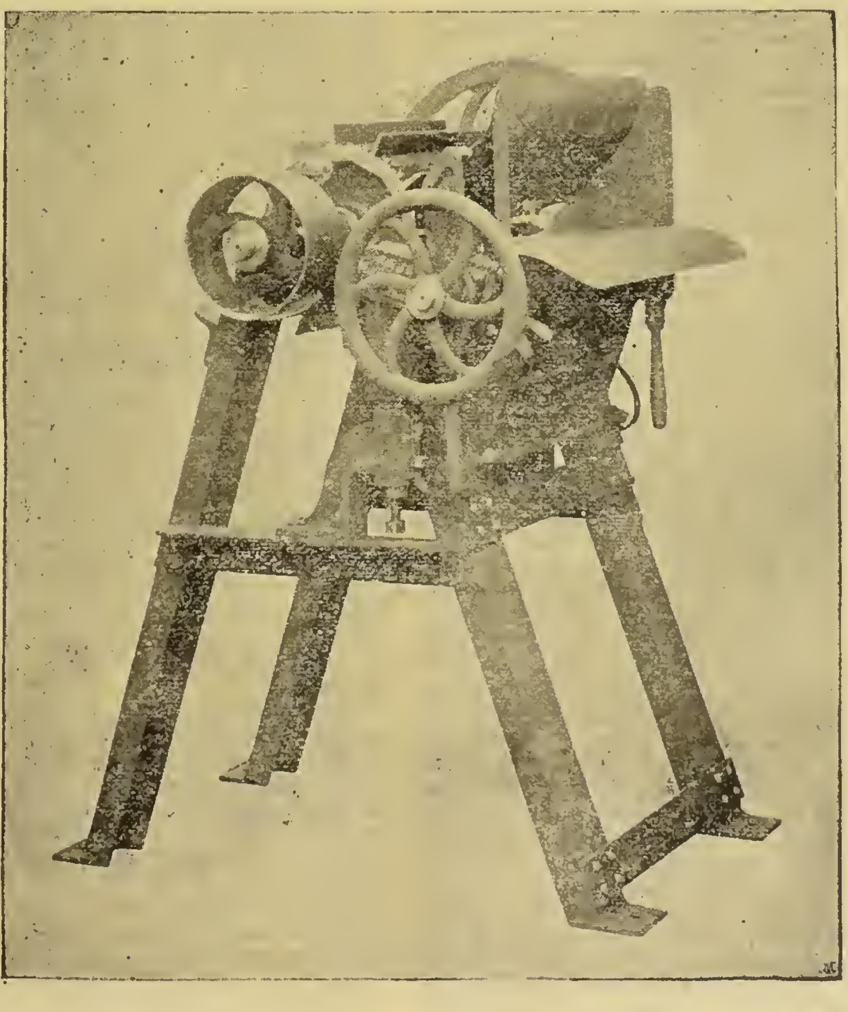
RAMIE, RHEA OR CHINA GRASS

FAURE'S NEW PATENT RAMIE FIBRE DECORTICATOR.

NO MORE RIBBONS OR STRIPS.

IT is claimed for this machine that it forms the connecting link, so long sought for between the grower of ramie and the spinner and manufacturer of the fibre; and that its effect will be to place ramie on the list of every-day textiles to be produced and utilized without difficulty in any desired quantity. The battle has been long between the chemist and the machinist concerning the role each has to play in the production of ramie, and until the point has been definitely settled, the fibre, notwithstanding its magnificent qualities—strength, lustre ductility, capacity for taking colour by printing and dyeing, and for mixing with other fibres, has been under cloud. The manipulation of the stems in the dry state so long advocated, has been definitely acknowledged to be erroneous, experience having proved that to obtain the full advantages of the many brilliant qualities of the fibre, the stems must be treated in the green state. The chemist has insisted that as little as possible must be done to the green stems by machinery, leaving the main treatment to be carried out by chemicals. The machinist has retorted that the fibre is seriously damaged by chemical process, which take away its strength, its lustre, and its ductility, and that therefore machinery must play the important part; and so for many years the battle has been waged, first one side and then the other gaining the victory.



The problem, commercially considered, has been to obtain a machine, which can carry out economically the following processes without damaging the fibre: (*a*) Remove the woody parts from the green stems; (*b*) Remove the outer skin or cuticle, which has so long baffled all efforts, mechanical and chemical, to remove it; and (*c*) Extract as much as possible of the juices of the stems, so as to simplify and cheapen the degumming process. The two former processes are effectively carried out by

hand labour in China, where workmen scrape each stem and remove the skin and the wood, but leave most of the juice in the fibre.

All inventors of ramie decorticators have concentrated their efforts on machines to produce ribbons. Needless to say, the object aimed at has fallen far short of the real necessities of rhe case, henco the long delays and numerous disappointments with which this fibre is associated. Ramie ribbons hvae three serious, almost fatal defects: They contain a large percentage of woody matter; they contain the outer skin or cuticle of the stem, which has been the despair of the chemist to solve and remove; and they contain the major portion of the juice which coagulates in drying and becomes gummy.

Mr. Faure has aimed at the construction of a machine to produce *not ribbons but the fibre* in one operation, free from woody matter, from skin, and with the least possible amount of juice in it. His product is equivalent to "China Grass," but in an improved condition, because his machine is much more regular and efficient in its action than the varying hand labour obtainable in China, and because the possibility of adulterating the fibre is done away with. Mr. Faure's first decorticator obtained the gold medal at the last Paris trials. It was the best of the machines exhibited there and tested by actual work with green ramie stems. Being desirous of improving on his first attempt, he has since constructed several decorticating machines, each one showing marked superiority over the preceding ones. A skilled engineer and machine maker, with every facility in his own works and ample means for carrying out his ideas, he had the benefit of another very important advantage, namely, the growing of ramie on his own estate in the Limousin near his works, which enabled him to practically test his ideas by actual experiments on the raw material—a combination of advantages probably not enjoyed by any other inventor of decorticators, Patiently and scientifically he has, step by step, worked out the problem; and the machine illustrated on the previous page represents the results of his several years' labours. It is simple, inexpensive, and does its work admirably.

It is fed by two men, working alternately, each holding in his hand about ten stems. The stems are used in the same condition as cut, with the leaves on. The operation of feeding is as follows: The stems are passed in twice. They enter the machine, leaf ends first, and after having been treated about two-thirds of their length they are withdrawn, an operation easily carried out, and fed in a second time, the thick ends first, so as to complete the operation. It frees the stems from all woody matter and from the outer skin or cuticle and extracts a large portion of the juice, thus producing fibre retaining all its valuable qualities.

The machine, which weights 11 cwts., is simple in construction, very strong and not liable to get out of order. It consists mainly of the framework and driving gear, the decorticating drum carrying beaters, and the feed bed. This latter is tho important feature of the machine, by reason of its special contour which varies at different parts to suit the various descriptions of work which the machine has to perform. The first part of the bed is curved outwards, the second is straight, and the third is curved inwards. The ramie stems are fed into the machine over the first part of the bed, where the woody portion becomes immediately broken and partly removed; the strip passes on to the second part, and as the speed of tho beaters is considerably greater than that at which the stems are fed into the machine, a scraping effect is produced on the strips, seeing that the distance between the beaters and the surface of the bed is less than the thickness of the strip. This scraping action effects a double purpose; it attacks the outer skin and also all matters extraneous to tho fibres. The strips or stricks of filaments then pass down vertically into the machino and the separated matters, viz. most of tho woody parts, tho skin and gummy substances, aro thrown out to a distance by the centrifugal force of the beater drum. When the stems have entered to within a short distance of their end, the return movement is effected and they are withdrawn. During the withdrawal the following action takes place:—At the inward curve or third part of the bed, the filaments are slightly and gradually grazed by the beater blades, which throw out the coarser of the debris still adhering. The operation is performed with great delicacy; the fibres assume the position of the chord of the curve and are constantly agitated by the beaters. When the fibres arrive at the second part of the bed, as the space between it and the beaters is infinitely reduced, the entire removal of matters still adhering to the fibres is effected, and these latter leave the machine:—white, parallel and free from woody matter, from skin, and from the major portion of the juice. The concave bed or breast is mounted in such a way, that its position to the action of the beaters is easily regulated. The brackets which carry the bed are supported by spiral spring cushions and flexible legs, the object being to obtain a rubbing action between the beaters and the fibre, having for its special object the loosening and removal of the skin or outer cuticle. The elastic bed gives way or vibrates an enormous number of times per minute, and this produces the desired rubbing or "knuckle joint" action between the beaters and the fibres on the bed. The shape of the feed bed causes it to remain clean and free from extraneous matter through the action of the beaters. Choking is thus rendered impossible. All abnormal strains are avoided, and the machine can be kept at work from morning till night without stoppages for cleaning. The refuse falls underneath the machine and is removed from time to time. In the case of a number of machines working together, an endless band or conveyor, passing under the machines, removes the refuse continuously and so keeps the neighbourhood of the machines perfectly free from it.

Faure's machine is simple in construction, and capable of being easily worked by native labour in the ramie plantations or in works connected therewith. Although simple, it needs to be constructed with the greatest accuracy in order to ensure effective working. The cylinder, carrying the steel beaters is perfectly balanced and accurate in its action; it runs at 400 to 450 revolutions per minute; the surface of the beaters is perfectly parallel with the setting of the feed bed and capable of working close up to it, say within a distance equal to the thickness of a piece of writing paper. The feed bed, the varying profile of which is of such enormous importance in the efficacy of the machine, is made with the greatest of accuracy and of the best materials.

With regard to the production, practical experience shows that two men working at one machine can treat 360 lb. of fresh green stemps per hour, or about 32 cwt. per day of ten hours. The amount of dry fibre produced, depends largely on the nature and growth of the stems; the percentage of fibre contained in green stems varies very much according to circumstances. On a 5 per cent. basis, the nett production of dry fibre by each machine per day of ten hours is 180 lb. When the stems are specially good, more than 200 lb. of dry fibre have been produced per machine in ten hours. Under ordinary circumstances a production varying from 160 to 200 lb. of dry fibre in ten hours per machine may be expected.

Tho apparently small production per machine needs a word of explanation. seeing that decorticating machines are boing made professing to treat large quantities of green ramio stems per day, but it must be borne in mind that their production is ribbons not fibre. Ramie ribbons or strips must always be unsatisfactory, and will, no doubt, in time disappear from tho market. The buyer has no means of testing their value, the quality or percentage of the fibre, and whether damaged or not by the decorticating machine; hence he will only give a low price for an unknown article, in addition to which thoy cannot bo highly compressed and packed into proper bales as other fibres are. Therefore the

freight on ribbons is unduly high; they also contain a very large percentage of useless material on which freight has to be paid.

Faure's machine produces *fibre*, which will always rank higher in the market even than China grass, by reason of its regularity in condition and quality. The buyer can easily see and test what he is buying; he will therefore be disposed to give it its proper classification and pay its full market value; in addition to which, by reason of the bales being well pressed and containing little else than ramie fibre, the freight and expenses per ton will be at the minimum.

The product of Faure's ramie fibre machine cannot be compared with the ordinary ribbons or strips. It is an entirely different article, and will fetch a very different price in the market. The machine, when treating good stems, produces about 5 per cent. of waste fibre, that is to say, fibre which escapes from the hands of the workmen. It cannot, however, be correctly classified as waste, seeing that it has excellent value for second quality ramie, and here we would note that in relation to ramie, there is practically no real waste, as the fibre is always saleable. Its qualities of strength and colour are so great that, even for paper-making, the very shortest of the fibre always has excellent value and fetches good prices.

In connection with the question of fibre production and waste, the nature of the growth of the stems must be considered. If they are planted too far apart, the stems have a tendency to unduly throw out branches. Each branch represents a break in the continuity of the fibre of the parent stem. Recent plantings of ramie are being made with the stems much closer together, so as to prevent undue branching and improve the quality of the fibre. Green stems grown in a tropical or subtropical climate give the best results. The growth being quick, the stems carry plenty of fresh green juice, which assists the decortication very much by leaving the fibre freely and carrying with it in its downward course from the beating point of the machine large quantities of extraneous matter. The condition of the stems at the time of treatment also plays an important part. In order to ensure the best possible fibre, the stem should be treated within a few hours of being cut. They should not be over-ripe, as the fibre deteriorates after the stems have arrived at maturity. The best plan is to cut them either just at full maturity or slightly before. The fibre thus obtained excels in whiteness and ductility, retains its full lustre, and shows to the best advantage during subsequent manufacturing operations, such as preparing, combing, spinning, dyeing, &c. Each machine requires about one horse-power to drive it. When a number of machines are working together less power will suffice; thus eight horse-power will drive ten machines.

Faure's patent decorticators were sent last year to Italy, Egypt, Tonquin, &c., and have more than justified the expectations that were raised respecting their action and the quality of fibre they produce.

A few words will not be out of place concerning the disposal of the fibre after leaving the machine. It may be dried at once and then baled, its condition being the same as China grass. Experiments made last season show that steeping the fibre in boiling water for about half an hour and squeezing it thoroughly previous to drying, gives very favourable results, as when dried the fibre is soft and separates freely. The gummy nature of the juice having been seriously modified by boiling, the final degumming process is rendered very easy, cheap, and short. The addition of about 1 per cent. of carbonate of soda to the water may be made if the circumstances are favourable. This partially degums the fibre and does away with any possibility of fermentation or deterioration during the transport to manufacturing countries.

The sole representation of Mr. Faure's interest, both for machines, licenses, and patents has been entrusted to Mr. Thos. Barraclough, of 20 Bucklersbury, London, to whom all applications should be made.

GRAPE FRUIT vs. PUMELOE—A NEW FRUIT FOR ENGLAND;

THE KEW GARDEN AUTHORITIES JUSTIFIED AND THE "FRUIT-GROWER" CONVICTED OF RECKLESS IGNORANCE.

WE regret very much that in the *Tropical Agriculturist* for August last (page 120) we took over a stupid paragraph from the *Fruit-grower* entitled "The Pumeloe in England: The Ignorance of Kew Gardens," which only showed the ignorance of the writer and which was entirely inaccurate in its reference to Kew and especially to Dr. Morris. The paragraph in question pointed out what no one had disputed, that the Pumelo is not a new fruit in England, although the writer erroneously supposed that the authorities at Kew were in ignorance of the fact. In reality, Dr. Morris of Kew Gardens in a letter to the *Saturday Review* had referred to "GRAPE FRUIT"—*not* Pumelo, from which indeed it differs as much as a fine apple does from a crab. The Grape Fruit is so highly esteemed in the United States that single specimens are retailed at a dollar a piece, and we need scarcely add that the fruit is entirely new to England.

We are glad to be able in this connection to reproduce here an article written by the editor of *Garden and Forest*, the leading horticultural journal in America, which clearly shows the value of Grape Fruit; and this we must give prominently in our monthly periodical in order to correct the blunder made in August; and also because the subject is one of special interest to us in Ceylon. We should like to know if anything has been done at Henaratgoda or Peradeniya—Hakgala is, we presume, too high—to do justice to the Grape Fruit? Meantime we quote as follows:—

GRAPE FRUIT.

Under the title of "The Coming Fruit," Dr. D. Morris, of Kew, not long since wrote to *The Saturday Review*, urging upon the people of the West India Islands to establish groves of Grape-fruit trees of the best quality. When passing through New York in the early part of this year, Dr. Morris was very strongly impressed by the quantity of this fruit which the New York market was demanding, and our readers will, perhaps, remember an article in the present volume of *Garden and Forest*, on page 163, in which he gives a sketch of he origin and history of the Shaddock, Pomelo, Grape-Fruit, Forbidden-fruit and other varieties which belong to this group of Citrus-fruits, and are botanically classified under the species *Citrus decumana*. They are quite distinct botanically from true Oranges, Citrons or other groups of the Orange family, and since they have mostly been raised from seed with little care given to selection, they vary widely in quality. The frost which ruined the Orange groves of Florida has temporarily shortened the supply, and Dr. Morris quotes a paragraph from this paper recalling the sale of small-sized grape-fruit of at least a dollar each, and is, Dr. Morris suggests, probably the highest price ever paid for specimens of the orange tribe.

No doubt, it will be long before there is any over-production of grape-fruit, since the demand for it increases every year, and it is constantly becoming more popular as a breakfast fruit. It is beautiful, is said to have medicinal value, and the more it is used, the more highly it is relished. Beyond question it would be a profitable fruit to raise in the West Indies, and probably the English people will in time prize it more highly than they do now, and furnish an additional outlet for West Indian groves. Since the Florida frost, this country has absorbed almost the Whole West India supply, although much

of it has been very inferior in quality. How does it happen that the enterprising orchardists of California have not been awake to the situation? There is no reason why they should not supply the east during a part of the year with all the grape-fruit needed. The limited qualities thus far received from California have lacked weight and juiciness. Wherever the fruit is grown it should be borne in mind that the highest success will only come with the use of the best varieties. There is no need to grow the thick-skinned and bitter sorts, or those with a dry, cottony pulp, when there are varieties both of the apple-shaped and pear-shaped fruits, with silky skin, full of juice and of a most delightful flavour, with just enough bitter to give it piquancy and suggest its tonic quality.—[*Garden and Forest.*]

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CAPSICUM, POTATOES, AND SOME OTHER ECONOMIC SOLANACEÆ OF INDIA.

[BY YOGE-DRACRI GHOSA, OF THE AGRI-HORTICULTURAL SOCIETY OF INDIA.]

Of the numerous *Solanaceæ* found in India, Nees von Esenbeck in his synopsis of Indian *Solanaceæ* counts about 45 species as indigenous to India.

Royle, in his illustrations, does not mention more than 44 species, which, excluding the Himalayan species, reduces the number for the plains to about 33; the Himalayan species being—

1. Lycium europæum.	6. S. crassipetalum
2. Atropa acuminata.	7. S. rubrum.
3. Hyoscyamus niger.	8. Physalis angulata.
4. Solanum laxum.	9. Datura ferox.
5. S. Lysimachoides.	10. Amisodus luridus.

According, therefore to these authorities, we can rely upon 27 species of Solanum, three of Physalis, and three of Datura as tropical. But there are several other species of this order, although not recognised by the earlier authors as indigenous to India, or more accurately, to the plains of India. For, barring few exceptions, a great many species, which have been known to have been introduced in the plains from foreign countries, are nevertheless found to be growing wild in the colder regions and higher latitudes. If by India we limit ourselves to the plains or even to the peninsula, the statement about indigenous and introduced plants is correct. But if in the term India we include the Himalayan ranges, we must hesitate before we declare a particular species as not indigenous. A species may have been introduced to the plains from foreign countries, say the Dahlia. All our garden Dahlia bulbs are received from Europe, but that is no sufficient reason to say that the Dahlia is not indigenous for Dahlias are pretty common in the hills, and at places where they could not have been introduced. Many indigenous plants and seeds or bulbs of plants, though quite common in the country, are annually imported, because better results are obtained from plant raised from imported seeds. It has not unoften been urged that, because there is not to be ordinarily found a Sanskrit name for a plant, it must be an introduced one. But the reverse of this proposition would not hold true, for we know we have a Sanskrit name for tobacco, *támrakuta*, but nevertheless it is admittedly an introduced plant. The same may be said of many others. On the other hand, coffee was ordinarily believed to have been unknown to the Hindoos: at least the beverage produced by the infusion of the roasted berries. In the Vedas, however, a beverage is mentioned; which is said to have been used for keeping off sleep, and which was much sought for by the gamblers of the time. It is said to have been prepared from the seeds of a berry named *Bibhidaka*, its other name being *Jágara* the Wakeful, which grows in the oasis of the Desert. The use of coffee as a beverage must have been forgotten, until, introduced by the Arabs under the name of *kawa*, who brought the berries from their own country, not knowing that they were indigenous to India. The cultivation of the coffee plants dates from still later time, but notwithstanding all this, it would not be fair to say that the coffee species is an introduced plant. The ancient Hindoos, even in the Vedic age, or at least in the ages of the *Sutras* and *Smrtis* were aware of introduced and foreign plants, and in certain observances they have disallowed foreign articles. However, be that as it may, following the authorities, there altogether 33 species, a few and a very few of them are economically known, the rest being of interest to the botanist or the naturalist.

The foremost of the Solanaceæ are the Capsicum or Chillies, sometimes known as Cayenne-pepper. Botanically, six species of this sub-genus pertain to India either as indigenous or as domesticated and cultivated. The whole of this family

or sub-genus may be considered as originally foreign, but that they have since so much adapted themselves to the soil and the climate that several of them have been completely acclimatised or naturalised here, freely flowering, bearing pods, ripening seeds, and self-sowing themselves again. Many individuals of some of the species of this family have been seen in most outlandish places, the seeds having been scattered by birds. Amongst them may be included the *Dhanilanka*, the bird's-eye chilly.

The Genus Capsicum, Linnæus Gen. Pl. II 892. is almost identical with Genus N. 338 of Schreb., the same of Pitton de Tournefort and G. Von Miller's Dictionary, 4, p. 441, is as distinct a genus as any other genus. There is, however, much confusion in the nomenclature of the several species, different authors having given different names to the same thing, and it is not unoften to find the same author in different publications having differently named the same plant.

Dr. G Watt counts—

1 Capsicum annuum, Linnæus; 2. C. fastigiatum, Blume; 3. C. frutescens, Linnæus; 4. C. grossum of Professor C. L. Willdenow, four species, Capsicum minimum of Roxburgh being, according to him, identical with C. fastigiatum of Blume and C. baccatum of Wallich.

Dr. Watt's, however, is the shortest list of all. Roxburgh counts six, namely:—

1. Capsicum purpurem—Roxburgh.
2. Capsicum annuum, Willdenow sp. I, 1,050.
3. Capsicum grossum, Willdenow sp. I, 1,051.
4. Capsicum frutescens, Willdenow sp. I, 1,051.
5. Capsicum minimum, Roxburgh and
6. Capsicum cerasiforme Willdenow, sp. I, 1,051.

Or, in the other words, he differs from Willdenow in making three species of 1,051 of that author.

It will thus be seen that C. grossum is admittedly a distinct species. It has been acknowledged to be so even in Nees von Esenbeck's standard work. It is also the case with C frutescens of Linnæus, but C. Chamæcerasus of Nees von Esenbeck is identically the same as C cerasiforme of Poiret and the C. purpurem of Roxburgh. The C. baccatum of Linnæus is no doubt the same as C. frutescens of Rumphius Herbarium Amboinense.

I. Capsicum Grossum.

The *kafrimaric* of the bazaar is cultivated all over India. It bears fruits all the year round, and is identical with the Bellpepper of Firminger. The rind is reflex, and swelled into various shapes. The thick fleshy skin is not quite so acrid and is not unoften used as a pot-herb by itself. In Nepal, which evidently is its home, it is known as *karsini* or Kharaseni, indicating the locality whence it was primarily introduced.

All the six species of Roxburgh are cultivated in India: they are indiscriminately called *Lanka or Lankamaric or Lal mraic.* In the bazaar the size, shape, and colour distingish them, by goat-pepper, bird-pepper, chilly, bell-pepper and Cayenne pepper, the chillies being the smallest-sized fruits. There are a great many varieties of them, some of which are ornamental. The pods are long, straight, of the size of a finger, long, bent, thin, and about an inch long, round, berrylike fruits, and looking more or less like tomatoes; some of them are orange, bright red, pale amber, purple black, yellow, and some are as white as a jasmine. The vernacular names are accordingly *kaffrimaric, lal lankamaric, holdolankamaric, dhanilanka,* and, *kulelanka.* White fruits appear as the kulelanka, the fruits being of the size of a round Bengal plum. Some however call the *Lankamaric* or the *Lal lankamaric* as *Gach-maric.*

The capsicum is not mentioned in Sanskrit works, and not known to have a Sanskrit name. It does not occur in any of the recent Sanskrit medical works, such as the Madhava Nidana. It has therefore been considered as introduced fruit, a fruit which, though now almost naturalised here, was quite recently introduced long after the latest Sanskrit medical work was written.

In the Bombay side of India, it is known as *Goa-maric i.e.*, pepper from Goa, where is extensively cltivated, perhaps having been introduced by the Portuguese from Brazil or Chili. In Bengal it is *Gach-maric, i.e*, the tree pepper or shrub pepper, as distinguished from *maric*, the true pepper, and which grows on a creeper. It is also called *lankamaric, i.e.*, pepper of Lanka (which is the native name of Ceylon) just because the fruit was first brought to Bengal, as it is supposed, in coasting vessels from Ceylon.

Whatener be its origin, it cannot be denied that it is a great boon to the people of Bengal, whose limited means make the black pepper an expensive article for daily use. The acrid flavour of the pods is the only seasoning which the poor Bengali can afford, in addition to salt, to make his dishes palatable. The capsicum is thus the only cheap condiment available to every one. Nature requires a stimulant, and the capsicum supplies this to the million. It stimulates the secretion of saliva, which is so much needed to the rough balls of *chatu* or the mouthfuls of dry *mudi.* Internally also it accelerates digestion, and the pungent juice clears away the phlegm. It is said to be vermicide, but those who use it to excess are not free from ring worm. It has been used by European physicians as a stomachic, and is not unoften given with other recipes in cholera. It has been used with great success in cases of *Cynanche maligna* (Duncan,t Med. Comm nt., Vol. II, 2-12-1785, and Med. Communications, Vol. III. p. 372, 1790). In the pepsia of drunkards and of gouty subjects, it has been found useful. Used externally its tincture proves valuable in elephantiasis, and also in some cases of rheumatism. Its composition, as ascertained by Bracconnot, is :—

Acrid oil	1·9
Wax with red colouring matter ..	0·9
Brownish starchy matter	9·0
Gum	6·0
Animalised matter	5·0
Woody fibre	67·8
Salts	9·4
Citrate of Potash	6·0
Phosphate and Chloride of Potash ..	3·4
Fruit Capsicum annuum	100·0 pts.

But Bucholz's analysis gives the proportion of Capsicum annuum without seeds to Capsicin or Acrid oil as 25 to 1.

The Capsicum is a paying crop. It requires no special attention, and if properly cured in dried condition, it fetches a handsome price. Fresh pods in the North Western Provinces sell at from half-anna to two annas per seer. It is largely cultivated for trading purposes in East Bengal, which principally supplies the market. In a dry state it sells from 9 Rs. to 12 per maund. In England chillies sell at 30s. per cwt. in quiet and dull markets. The acridity of capsicum is due to the alkaloid mentioned before which, when gently heated, becomes fluid, and at a still higher temperature it dissipates in acrid cough-producing fumes. The volatile alkaloid smells much like conine. By treating Capsicum with petroleum, *Capsicols* may be obtained, which, however, is a doubtful substance, and *Capsicin* or *Capsaicin.* Capsicin is sparingly soluble in petroleum, but dissolves readily and abundantly in fatty oils, ether, etc. Allowed to crystallize, we obtain colourless crystals answering to the empiric formula C9 H4 02. Capsicin is not a glucoside. It is a powerful rubefacient, and helps to relieve constipation. It is therefore a necessary condiment to natives of Bengal, whose principal strength-giving food is based upon fats, and Capsicin dissolves *ghi.*

It is needless to repeat what is well-known about the uses of Capsicum as a condiment and as a culinary article. It however, is an important ingredient in the preparation known as *kasundi*, or *Achar, Chutni*, which is prepared by the Hindoos of

Bengal with some ceremony. It is made up by pounding green mangoes with mustard seeds and some other condiments. Capsicum enters in to the preparation of *Gnappi*, also a condiment spebially liked by the Burmese. In the North-Western Provinces, where spirits are largely used by the people of the lower castes, pounded Capsicum is mixed with jaggery and water to form a substitute drink on festive occasions. The pungency of the Capsicum and the sweetness of the jaggery combine to produce in the throat, when drunk, an imitation of the spirituous drinks—a cheap imitationi no doubt. It is much used by the poor *Malhahs*, *Dhobis*, *Passis*, *Dharikars*, etc., when they cannot afford the expensive *Mahua Rum*.

Roxburgh distinguishes six species by the following characteristics :—

a.— General appearance and habit of the plant, which is identical in them all. They are all shrubby.

b.— Peduncles which are solitary in all five, except in C. minimum, Roxb., which has peduncles in pairs.

c.— Character of the leaves : C. purpureum, Roxb. has ovate lanceolate. Such is also the case with C. annum, Willd. and C. frutescens, Willd.; those of C. grossum, Willd. being ovate, oblong, and of C. minimum, Roxb. ovate-cordate.

The difference in the shape of the leaves is not a criterion.

d. — As to the fruits or berries: why, this also is variable, *c* and *d*. vary under climate and other conditions specially so in a cultivated species.

It has been often noticed that by cultivation, exclusive of selection, the fruits and leaves vary. It has also been observed that seedlings of one species may approach in theso characters to those of other species. Seedlings of the Jack fruit have been known to produce serrated leaves, reminding one of its ally the bread-fruit. What is called the *kafrimaric*, and what the botanists h ve named Capsicum grossum by climatic influences have been seen to bear round berries as well as long pods. The garden varieties of red, orange, purple, etc, coloured berries of ornamental Capsicum, may be traced to the C. grossum and the C. minimum to the other long-podded Capsicums. It would therefore serve the cause of science to reduce the unstable species to one which may have some permanent characteristics to distinguish them from other species of the same genus. The Capsicum, if divided under two species, No. I and No. II. would serve our purpose for all ordinary occasions. The horticulturist had better look to the result, and let botanists be content with really stable characteristics.

The Genus Solanum or the Night-shade described in Screb. General N. 337, embraces a much larger number of species of much more diversified characteristics than the Capsicum. In an economic point of view, the foremost in the genus stands the Potato. Roxburgh enumerates 16 species under two sections, the unarmed and the armed, as of India, omitting altogether the potato which he neglected evidently fancying it to be neither indigenous to the country nor sufficiently acclimatised or naturalised here as to justify him to enumerate it under indigenous solanaceæ. In dealing with other introduced plants, he has not been qutie so particular, such as in the case of tobacco or the Carica Papaya, etc, etc,., both of which freely ripen seeds and seedlings, and may be found in out-of-the-way places. This can be said of the potato. The potato has not been observed anywhere in India to havo grown in a wild sta e from self grown seeds, although it bears quite freely tomato-like berries which ripen their seeds also. It would be an observable incident if seedlings of potato could be found anywhere in India bearing the edible tubers. But it ought to be said that seedlings from sugarcane have not been seen growing wild and producing saccharine canes. Be that as it may, the potato dates as far back as the tobacco, and perhaps earlier than the papayas! Perhaps the climate and the soil, at least of the plains of India, are not quite so well suited to the potato as those of Peru. It has been seen to grow wild, being also originally introduced from Chili.

Following Roxburgh below are given names of some of the economic Solanaceæ which are indigenous or more or less naturalised in India :—

I. Sec,		Unarmed.	
	1.	Solanum	pubescens, Willd. sp. I. 1026
	2.	S.	auriculatum, Willd. sp. I. 1025
	3.	S.	lycopecscium, Willd. sp. I. 1033
	4.	S.	rubrum, Willd. sp.I. 1034
	5.	S.	decemdentatum, Roxb.
	6.	S.	spirale, Roxb.
II. Sec.		Armed.	
	7.	S.	Melongena, Willd. sp. I. 1036
	8.	S.	longum, Roxb.
	9.	S.	insanum, Willd. sp. I. 1037
	10.	S.	æthiopicum, Willd. sp. I. 1036
	11.	S.	diffusum, Roxb.
	12.	S.	Jacquini, Willd. sp. I. 1041
	13.	S.	indicum, Willd. sp. I. 1042
	14.	S.	trilobatum, Willd. sp. I. 1049
	15.	S.	hirsutum, Roxb.
	16.	S.	stramonifolium, Jacq.

I. 1 and 2 are suburbarcus.
3, 4 and 5 are annual.
6 is shrubby.
2 is downy.
and 5 is hairy all through.

The arms or or thorns. hairs or downs, it must be said, are not bersistent characters, at least they do not reproduce themselves in the same degree under climatic and cultivating influeuces. Thorns have been seeu to interchange for hairs or downs, and they have also noticed to change in their number, size aud hardness. The thorns are not constant in many other plants, not even in the Ægle Marmelos (the Bel-fruit), or the Zizyphus Jujuba (the hog-plam), which last is notoriously armed, but specimens perfectly free from thorn are not altogether impossible. The same same may be said of certain varieties of S. Melongena (the egg-plant) which have been seen not to bear any downy substitute of the thorn. The calyx of S. longum of Roxburgh is not invariably armed, though that distinguiseed author has based his species on this, the character of the leaves and the shape of the fruit. He says:—

"I consider this to be a species distinct from S. Melongena, for the fruit is always cylindrical, never changing by the culture into any other form." Roxburgh no doubt was misled by limiting his observation to the B ngal cultivated egg-plants. In the North-Western Provinces, however, the general shape of S. Melongena is more cylindrical than oval or round. The same may be said of S. insanum, Foa ordinary purp0ses, therdfore, these three may be made into one species, leaving the gardener to name his varieties.

Neglecting therefore the arms, we may begin with one continued list of 16 indigenous species of Solanum, remembering, however, that the potato counts beyond this number.

1. *S. pubescens Willd.*—This is the same as S. verbascifolium of Linnæus and S. erianthum of Don's Nepal flora, the *Aras* of the native Kavirajas and the *Gandhira* of the *Sanskrit* authors. This grows all over India, and flowers almost the whole year round; the berries are of the size of a cherry, and they may be seen all though tho year. The bark and the leaves are immediately used, and it is said the berries are cooked in curries. This plant has been seen in favourable places to obtain the size of a small tree. It may be distinguished from the next by the colour of its flowers, which are white, while S. auriculatum has lively blue, purple flowers.

2. *S. auriculatum, Willd.*—This is the S. mauritianum, Scot, Roxburgh says: "Independently of the colour of the flowers, the stipulæ on axillary leaves render the species readily known; in all other respects it almost exactly resembles the preceding, in that plant there are no stipulæ and the flowers are white.

1 and 2 therefore for ordinary purposes may be put under S. pubescens. Variety A (white flower). Variety B. (Blue-purple flower and stipule).

3. *S. lycopersicum, Willd. ordinarily known as Pomum Amoris, Blackwood and Rumphius.*—It is the same as Lycopersicum amoris, Monch Sol. esculentum, Mill., the tomato of the gardens. This has, however, been made the basis of a seperate genus Lycopersicum and the tomato is L. Gleni of Tournefort. Some authors, however, have distinguished it into a seperate species. But from the description it cannot be doubted that Lycopersicum cerasiforme of Dunal is none other than the L. esculentum of Willd., the *Gadha* Begun of the Bengalee gardeners. Some however distinguish the L. cerasiforme as Solanum pseudo-lycopersicum, which has been named by Genetin as Solanum spurium. It is questianable whether Lycopersicum Humboldtii of Willd. is not identically the S. lycopersicum of Roxburgh which Willdenow in another place has described as Solanum Humboltii. Any how all the three species of Tournefort's Lycopersieum, *i.e.*, esculentum, 2 cerasiforme, and 3 Humboldtii, are different names of Lone apple weich has been thoroughly acclimatised in India and which has been seen to reproduce itself from self-sown seed.

4. Solanum rubrum, Willd. This is undoubtedly the same as solanum nudiflorum of the same author, for Roxburgh says "seeds received from Mauritius under the name of Solanum nodiflorum (Willd. sp. I· 1035) produce this very plant."

Roxburgh, however, has himself sub-divided this species under—

A. Erythropyrenum, Roxb. which is S. Rumphii of Dun and S. asperum of Hoarnem.

B. Melanoperenum, which S. oleraceum of Rich. Herb. and S. Nigrum of Blume. Solanum nigrum of Linnæus, however, is no other than—

S. rubrum, Mill.
S. incertum, Dunal.
S. Roxburghii, Dunal.
S. triangularis, Lamk.
S. villosum Lamk.
S. nodiflorum. Jacq.

But Solanum incertum of Dunal is

S. nigrum of Forsk and
S. miniatum of Bernh

The whole forest of names being thus cleared, the Solanum nigrum, Willd. may be said to the scientific name of the native plant *Goraski*, which bears red and black berries. This is the Moko of Yunani physicians, who speak somuch of *Arak-i-moko* infusion decoction or extract of *Moko*, a cooling draught, not unoften prescribed in early stages of insanity. It is *Gud-ka-mai* of lower Bengal, a herbaceous plant growing wild throughout India. It bears diminutive tomato-like berries of the size of a small pea, much eaten by children; in a ripe state it has some swectish taste. It must not, however, be confounded with the *Mokoye* of the North-Western Provinces, which latter is Flacourtia montana of Graham, or Flacourtia enermes of Roxburgh.

5. Solanum decemdentatum' Roxb., ideotical with S. decemfidum, Wall. This said to be a native of China and Singapore, but it has been completely naturalised here, for it ripens its fruits and selfsows itself. It is properly speaking a variety only of S. rubrum, Willd. mentioned above. It is from its habit a robust pubescent variety of S. nigrum. It is an annual herb, but hairy. Its berries are of the size of a pea, and are smooth and bright red when ripe. It is not unoften difficult to distingnish from S. nigrum or S. rubrum.

4 and 5 therefore for ordinary purposes may be put under one speceies, Solanum rubrum.

Solanum spirale, Roxb.—Thif has no economic value, except as a narcotic. The sivth species therefore in an economic point of view is—

6. Solanum tuberosum L. Its synonyms are Lycopersicum tuberosum, Mill, Papas americanum, Baugh, Papas Pernanorum, Besel, Batatas peruvianum, Park.

The potato.—Its ordinary vernacular name is *Alu*, but the term *Alu* is not restricted to this tuber only. It is not unoften, therefore, that it is distinguished from other edible tubers and roots by the name *Gol alu, i.e.*, the ball-shaped *alu*, *Vilati alu i.e.*, foreign *alu*. The name of *alu*, therefore,

The Potato.—Its ordinary vernacular name is *Alu*, but the term *Alu* is not restricted to this tuber only. It is not unoften, therefore, that it is distinguished from other edible tubers and roots by the name *Gol alu, i e.*, the ball-shaped *alu*, *Vilati alu, i.e.*, foreign *alu*. The name of *alu*, therefore, seems to indicate the class to which this article of food belongs. Thus we have *Cankh alu*, identified by some to be Pachyrrhizus angulatus Rich, Dolichos bulbosus, L. Dr. G. Watt in his Dictiouary of Economic Products says that the tuberous root resembles a turnip in taste and consistence, and that it is eaten both raw and boiled. The Cankh alu, however, is never known to be used after being boiled. There is another similar looking tuber which sells in the bazaars, of the N.-W.P. as Sakarkand, which is always taken boiled. This Sakarkand, when boiled, has the consistence of boiled turnips, but has a much sweeter taste than that of turnips, but wants the flavour of turnips. The Sakarkand is, however, distinguished from another edible tuber sold in the Bengal bazaar under the name of *Lal a'u* or *Mau alu*, which when boiled is as sweet as the former. This later Lal alu or Mau alu is sometimes called Lal Sakarkand alu, which is no other than Batatas edulis, Choisy, Ipomœa Batatas, Lank, Convolvulus esculentus., Spre., Convelvulus edulis, Thumb., Ipomœa Catesbæi, Meyer. The vernacular name *Sakarkand alu* literally means the sweet tuber *alu*, for *kand* is the Sanskrit name for a tuber, and is the Sanskrit equivalent of the vernacular term *Alu*, which again may be traced to the Sanskrit name *Ol* (Amorphophallus campamulatus, Blume,) which is *jamikand* in the N.-W. P, *i.e.*, the earth tuber. The *Lal alu* or the *Lal Sakarkand alu* is Batatas edulis variety *a* erythrorrhiza and the white variety, that is, the *Sada Sakarkand alu* is B. edulis, variety *b* leurcorrhiza. This last is not unfrequently confounded with the *Cankh alu*. A great many of the arenu class are also called *Alus*, thus we have—

Capdi alu,	Dolichos globosa, Roxb.
Kham alu,	D. alata, L.
Garane alu,	D. purpurea and robella, Roxb.
Mau a'u,	D. aculeata, L.
Susani alu,	D. fasciculata, Roxb.
Kukur alu,	D. anguina, Roxb.
Sar alu,	D. nummalaria, Lam.
Kanta alu,	D. pentaphylla, L.

Parkinson, however, puts the potato under Batafas peruvianum, although it has been clearly established that the potato originally belonged to Chilli, whence it was introduced to Peru.

(To be continued.)

ARTIFICIAL COFFEE-BEANS.—Artificial whole Coffee has long been known as a commercial commodity, but we were scarcely prepared for the statement recently made by the *West Indian and Commercial Advertiser*, that it is now manufactured to an alarming extent, consisting of the roasted meal of different cereals worked up with dextrin. Two different factories, it is stated, have been established at Cologne, which undertake to furnish the requisite machinery and plant, with directions for making the false Coffee-beans. The apparatus supplied by these wholesale swindlers is capable of turning out more than half-a-ton daily, at a cost of about £1 per cwt., good Coffee having nearly five times this value in the market. The fictitious Coffee is difficult of detection by ordinary examination, especially when a proportion of genuine Coffee is mixed with it.—*The Gardeners' Chronicle.*

THE "LADYBIRD" ENEMY OF COFFEE-BUG—ADVERSE CRITICISM.

We are very much indebted to Mr. E. E Green—specially qualified as he is to write with authority on the subject for the following communication sent by him to our "senior" in England. It will be seen that Mr. Green sees no reason in the adverse criticism recently offered, for refusing to make the experiment proposed of infesting "ladybird" beetles to deal with the green-bug on coffee; but as the expense would be widely distributed, our planters in Mysore, the Straits, &c., if they agreed to join in the employment of Mr. Kœbele, it ought not to cost any individual proprietor more than a few rupees. We are back, therefore, at the point where support for a joint mission should be canvassed for—who will lead the way? Mr. Green writes as follows:—

"Budleigh Salterton, Devon, Oct. 8.—I have just been reading in the *Ceylon Observer* (Overland edition, Sept. 16) an article called 'The Ladybird a Humbug,' by an anonymous correspondent

"There are one or two points in the article that warrant a little criticism. Your correspondent argues from the fact that because 'scale-bugs' abound in Australia, therefore, the introduction of ladybird beetles from that country must manifestly be useless. This fact does not affect the position at all. In their own country the beetles are hampered by numerous natural enemies and parasites that prevent them from increasing sufficiently to get the upperhand of the more prolific bugs. But when the beetles are removed to some other country, having left their natural enemies behind, they are in a position to increase and multiply unchecked as long as a plentiful supply of their food is forthcoming. And this food being the scale-bug, the failure of food would mean the success of the ladybird experiment.

"It may be said that other natural enemies will find them out in the new country. And so they will—in time, but experience shows us that it is usually a *long* time before fresh enemies acquire the habit of preying upon the new introduction.

"There is no question whatever about the value of the work effected by the 'Vedalia Ladybird,' which was imported from this same scale-infested Australia. In a comparatively short time this insect practically freed the orange plantations of California from the dreaded 'flute-scale' (*Icerya purchasi*) that had proved so destructive there.

"The partial failure of the experiment in other places requires an examination of the particulars of the individual cases before we can judge of their merits. It appears—your quotations supplied by your correspondent—that ladybird beetles have not given entire satisfaction when employed against the ravages of the 'black scale' (*Lecanium oleæ*). Now this particular bug forms a very hard scale in its later stages which serves as a protection for the large number of eggs deposited beneath it,—a fact which may possibly account for its ability to resist the attacks of the beetle.

"Our own chief pest the 'green bug' (*Lecanium viride*) is an especially unprotected insect, the skin of the body remaining soft to the end. In this particular it very closely resembles the species which we are told by Mr. Kœbele has been exterminated in Honolulu through the agency of ladybird beetles—also originally hailing from Australia.

"Your correspondent very justly suggests that 'it would be unwise to incur any extraordinary outlay' in the matter. I do *not* advocate any extraordinary or even very heavy expenditure. A few cents per acre for all the coffee in the island would produce sufficient funds for the starting of the experiment. The suggested remedy is not of course a certainty,—otherwise there would be no two questions about its immediate adoption. But if nothing should ever be attempted for fear of possible failure there would not be much progress in the world! The possible benefit is enormous,—far out-balancing the expense of a possible failure.

"I notice that one of the critics quoted by your correspondent impugns the value of the ladybird, partly because 'she does not extirpate the fungus.' Surely this is rather unreasonable! I presume the fungus in question to be the sooty growth usually associated with an attack of 'bug.' But if you kill the cause (the bug), the effect (the fungus) will soon pass off. Moreover this fungus is not in itself injurious to the plant. It germinates and subsists solely upon excrementitious matter from the bugs.

"As for your correspondent's concluding remarks upon scientific as opposed to practical work. In many cases the life history of an organism must first be known before a logical remedy can be suggested. It is possible that a scientist—from his special training—may be in a better position to carry out the first part of the work; while the practical agriculturist may best know how to apply the results of the first man's labours."

To which we may add that there is surely a high negative value to be attached to the scientist's work when he is able to indicate—as Thwaites originally did and Marshall Ward later—the fruitlessness of the coffee planter trying to expel the leaf fungus from his fields when once it has taken possession. Now, the fungus is supposed to be in a decaying state itself in Ceylon, while the "green-bug" has long been regarded as a far more serious enemy; and science as well as practice points to a remedy in the "Vedalia ladybird" to be got from Queensland.

FRUIT CULTURE ON THE INDIAN HILLS.

Some interesting facts regarding fruit culture in the hills are given by the Rev. M. M. Carleton in the last issue of the *National Magazine*, published in Calcutta. Mr. Carleton, who is one of the foremost pioneers of the fruit growing industry in the Himalayas, has made various experiments at Ani, a village in Kulu, 4,500 feet above sea-level and

distant 65 miles from Simla. As regards apples it appears that American and English trees have proved almost a failure. The experiments have now extended over a period of ten years, but though the trees themselves flourish and a few apples are produced the return is of the poorest. The conclusion arrived at is that apple cultivation will not be profitable at a lower altitude than 6,000 feet. Apricots, on the contrary, have proved a remarkable success. The native tree of the Kulu valley is not very prolific, but the Kashmir and English varieties yield fruit after the fourth year in great abundance. Mr. Carleton strongly advocates the extension of the cultivation of these varieties in all the lower hills ; and he suggests the introduction into Simla of the American fruit-drying machines. He believes that enterprising persons could establish a very profitable industry in preparing dried apricots for the Indian markets. American grapes at Ani have done extremely well. Fifteen years ago the Black Hamburg variety was tried, but it turned out a failure. Mr. Carleton, six years later, sent to America for a hardy prolific vine grown on the northern limit of grape cultivation, where the spring opens in May and the frost comes in September. He held that this variety would ripen in Kulu before the heavy rain, because spring begins in the valley early in March. He has now a vine eight years old which yields 70 lb. of grapes. He remarks that a few such vines around the houses of intelligent zemindars in the Simla district would give a handsome return in the local market especially in the month of June. There can certainly be no question about the great demand for fresh fruit in Simla during the summer months. Experiments with the European orange have shown that the Maltese variety can be grown in the lower hills as high as 4,500 feet. Mr. Carleton thinks a great industry might spring up if the cultivation of oranges was undertaken. From one tree at Ani, eight years old, he gathered 220 oranges last February, which is the month for plucking the fruit, following the Califtonian custom of leaving the oranges on her trees until the new leaves appear. Snow does not appear to injure the fruit though it affects the leaves. It is pointed out that oranges sold from the Gujranwalla and other gardens fetch from R5 to R8 per 100, and it is believed that still higher prices could be obtained for the Kulu fruit in the Simla market during April. If this were so one tree yielding 200 oranges annually would give the owner a handsome profit, and that on only 10 feet square of ground. It is evident that grape and orange cultivation in the lower hills could be made a very paying industry, but the natives are not enterprising enough to take the matter up. European energy is needed to show them the way, and in the absence of other agency the Forest Department might well step in and give the movement a helping hand.—*Pioneer*, Oct. 3.

THE CIGAR TRADE AND CEYLON TOBACCO.

The success that has attended the cultivation of tobacco in Borneo cannot fail to make a comparison with the result of similar cultivation in Ceylon an unsatisfactory one. It may well be doubted, we think, if there is anything in the quality of the Ceylon-grown leaf to account for this. Indeed, expert opinion has, we know, reported very favourably upon this. Any facts, therefore, which may throw light upon our relative failure, and may suggest means whereby it may be redressed, cannot but prove both of interest and of possible value. A correspondent now at home writes us that he has been making some inquiry as to the conditions under which Borneo tobacco has secured the favourable position it has in the London market. He consulted, he writes us, one of the most experienced men in the cigar trade, who told him that one reason why the sale of cigars of Borneo tobacco has become so large is that it has been fosted by the endeavours made to popularize it. Not that these would by themselves have sufficed were the quality not good, but that there was not sufficient difference between this and that of Ceylon grown tobacco to account for the different results obtained in the two cases. He pointed out that success must mainly depend upon the appreciation shown by the million, and not upon the opinion of the limited number who can afford to pay for high-priced cigars. The taste of these last has become so highly cultivated and fastidious that they will tolerate no cigars but those of the highest class and such as have become well-seasoned by careful long keeping and seasoning. It is not these men who are the rulers of the tobacco market. They will willingly buy at prices quite above common reach, but they constitute merely a drop in the ocean of cigar consumers. Where one man will satisfy an exigent taste by paying from 6d to 1s 6d each for his cigars, hundreds are satisfied with those they can purchase for 2d to 3d each. It is this second-class of customers that uses up the vast importations of the tobacco from Borneo and Sumatra. The finer production of Havana and other West Indian growth are reserved for the first alone. The expert went on to remark that, owing to the high duty on imported cigars, these were not within the reach of the generality of smokers. It is true, he said, that an attempt had been made to introduce cheaper cigars manufactured abroad, but that to do this necessitated these being made of the coarser tobaccos, and that their manipulation was unsatisfactory. One of the prime qualifications of a cigar is that it shall burn easily and evenly, and with a residual ash that shall not unexpectedly fall. Foreign-made cigars of the cheaper sort do not, it was said, possess this qualification. The result has followed that a distinct preference is shown for those cigars that are made in home factories from imported leaf. It was acknowledged that in some respects these are not equal to those rolled in the producing country. The leaf dries during the passage to Europe and has to be damped before being made up into cigars. To the *connoisseur* who can afford to pay for the higher priced cigar, this is a bar to their use. But the million is not so exacting. He is willing to sacrifice some degree of refinement in flavour for the facility with which the home-made cigar smokes and the low price at which it can be supplied. Every year shows the British-made cigar ousting its foreign-made competitor. Our correspondent doubts in Ceylon tobacco has been tried in this direction. He believes that were the leaf treated in home factories, and as freely advertised as the Borneo tobacco has been, the issue to the attempt lately made to introduce cigars of Ceylon tobacco to the home public would not have been what it was. He advises, for the reasons set forth, that an attempt should be made to introduce our island leaf to the attention of the home cigar factories.

YEAR BOOK OF THE UNITED STATES AGRICULTURAL DEPARTMENT.

We have been greatly interested in looking over "The Year Book of the United States Department of Agriculture," with a copy of which we have been duly favoured. So much accustomed to the spread-eagleism with which so many of the descriptive and semi-advertising agricultural journals is conducted in that progressive country, it is refreshing to come across carefully sifted facts and figures showing the actual progress in that—when all deductions are made—really grand, ever advancing commonwealth. This volume of 656 pages comprises only a very minute portion of the annual reports or government publications of the year, an epitome of which is given in the appendix; but it contains the cream of all the most valuable papers bearing on agriculture, written by eminently competent men; reports from the different bureaus and divisions such as, in the opinion of the Secretary, are specially calculated to interest and instruct the farmers of the country; and papers from experts of the agricultural experimental stations, discussing in a popular manner the results of investigations in the science of agriculture, or new developments in farming practice. And with a view to make them attractive as well as instructive these papers, or rather essays, are embellished with many interesting and beautifully executed illustrations. "500,000 copies of this book have been published at an expense to the people," we are told, "of $400,000." Of the contents we can only give a few samples, sufficiently indicating the nature of the advice tendered to farmers and planters by this paternal government:—Reasons for cultivating the soil, by Milton Whitney—The two freezes (1894-5) in Florida, and what they teach, by H. J. Webber—Some additions to our vegetable dietary, by Frederick V. Coville—The pine-apple industry—Principles of pruning—Small fruit culture—Tree planting in the Western Plains—Relation of forests to farms—The shade tree insect problem—Principal enemies of the grape—Climate, soil characteristics, and irrigation methods of California—Human foods—Treatment for fungous diseases of plants—200 weeds: how to know them and how to kill them—Statistics of principal crops, consumption *per capita* of tea, coffee, wine, &c.

Amongst the numerous plates and text illustrations we specially note:—The main building of the U. S. Department of Agriculture.—Coconut grove near Palm Beach, Florida, showing effects of freeze.—Plan of irrigation by terraces, monographic display of southern economic timber trees.—An old orange grove killed down by cold, &c., &c.

We at length get at the truth regarding the fearful freeze in Florida, disastrous enough in all conscience, and ought to make the purely tropical planter thankful that at least he is free from some of the evils which afflict his subtropical brother. But we have no desire to dwell on this calamity which, however, may not be altogether unpreventible if only the tactics adopted by the wise Incas of Peru should be put in practice. These were simply to have always in readiness heaps of damp grass with which to raise a smoke dense enough to carry off the frosts not infrequent upon the high plateau of the Andess. By this simple means the grand old Incas protected their potato fields probably for centuries before the tuber was known in Europe.

In his paper on "some additions to our vegetable dietary" F. V. Coville, Botanist, gives some good grandmotherly advice regarding the virtues of certain pot herbs the use of which he says "both in the form of salads and boiled green vegetables is much more prevalent in Europe than America," and he seems to attribute the cadaverous look of many of his countrymen to the lack of this food, or, to quote correctly, "to the lack of this kind of food is due in large part the reputation of Americans as a bilious race." There are more bilious races however, to whom a study of this paper might prove profitable, the persistent beef-eating Europeans and Eurasians to wit. "There seems little doubt in general," says Mr. Coville, "that a wider use of green vegetables in the dietaries of most of our people, particularly those with healthy digestion would be a marked benefit." Yet when he goes on to enumerate and describe the different pot herbs he recommends, we do not find much that is new to us. Indeed, with the single exception of *New Zealand spinach* brought home to England by Captain Cook, there is not a vegetable mentioned but what was familiar to Pliny ages ago. One of the plants mentioned, the Amaran, is commonly used by our estate coolies, and might with advantage be added to the dietary of the doray; while another—the *dock*—we do not think any European could stomach, the "*docken*" as we know it—is one of the most useless and objectionable of weeds. Not even an ass will tackle it, and the good farmer is always bent on eradicating it. The late Dr. Alexander in his "Life among Our Ain Folk," tells us of an excellent old farmer but very wicked man who "banned all the week and delved dockens on Sunday"! Evidently, however, the *garden sorrel* is meant—a near relative of the dock but not possessing much more of a nutritive character.

Another early acquaintance recommended for table use is *Caltha palustris* and though here called a 'cowslip' is none other than the common marsh marigold of Britain, which we were always assured by our grandmothers had certain virtues but we never thought of eating it. We feel more in agreement with the writer, when he speaks of dandelion (Taraaxacum), which while extensively cultivated around Paris for its tender blanched leaf and relished in many of the colonies as an excellent tonic, it has never been sufficiently appreciated in Britain, except by rabbits.

We cannot afford space to dwell longer on this paper, and would now turn to what is of more universal importance, viz.:—

THE STATISTICS OF THE PRINCIPAL CROPS.

Beginning with the staff of life the quantity of wheat raised in 1895, was 467,103,000 bushels compare Britain's 38,348,000, or Australasia's 32,461,000 over 76,000,000 bushels were exported besides $30,000,000 worth of flour to the U. K.

Of cattle the estimate is 16,137,586 milch cows, and 32,085,409 oxen.

But wheat is by no means the principal crop. There were more than twice the average under corn, producing 2,151,138,580 bushels value $544,985,534. Oats also figure at 824,443,537 bushels, and barley 87,072,744—to say nothing of rye, rice, hay, hops, cotton and fruits, &c.

The canning of fruits is itself a big business, employing 50,881 hands, the wages paid during the year being $5,243,707, cost of materials used $18,665,163, total value of product $29,862,416.

We are told that "The capital employed in this industry was only $701,388 less than that employed in the creamery and cheese-factory business, while the value of the products exceeded the

combined value of all the windmills, clocks, watches, firearms, mirrors, mats and matting, linen fabrics, and enamelled goods made in the U. S. during the year."

With regard to the cattle industry, it is estimated that three acres of land in the highest state of cultivation will support 5 head of cattle, so that "If the 300,000,000 acres of arable land in the Mississippi Valley were to be devoted to such an extensive system of culture, more cattle could be raised in each year than are consumed in the whole world." There is evidently no fear of London starving just yet. The U. S. in keen competition with Canada, Argentine, and Australia, can be trusted to keep up the supply and down the price.

The future prospects of the farmer are thus concisely put :—

"The farms of the United States average 137 acres each. These farms number 4,564,641 and their average value in the census of 1890 is 2,909. The farm family including hired help, averages six persons. By their own labour, with an additional investment upon each farm of $200 in implements and $800 in domestic animals, those families made for themselves during the year, out of the products of the earth, a wholesome and comfortable living. The same farmers have with part of their surplus products, fed all the urban population of the U. S., poor and rich alike. Cereals, meats, vegetables, dairy produce &c., have been supplied to village and city markets in abundance. It is probably safe to say that 40,000,000 of American citizens not living on farms have been so furnished with all the necessities and luxuries known as products of the varied soil and climate of States of the Union.

"During the fiscal year 1895, the U. S. exported to foreign countries domestic commodities merchandise, and products aggregating in value $743,000,000 of which the agricultural products formed $553,215,317. Of this total Europe received 79 per cent.

"Thus American agriculture, after feeding itself and all the cities and towns of the U. S., has sold to the outside world over $500,000,000 worth of products. In the presence of these facts, in the face of these figures, how can any one dare to assert that farming is generally unremunerative? But declaimers declare that the farms of the U. S. are sadly burdened with mortgages. The census, however, develops the fact that on the entire valuation returned for farms there is only a mortgage of 16 per cent."

We would now turn with very special interest to inquire into the capabilities of our beloved cousins in the way of consuming tea. On page 552 we find a table showing the consumption of tea from 1870 to 1896, from which it appears that the taste for tea is not perceptibly increasing—in 1886, the consumption *per caput* was 1·37lb., today it is at the rate of 1·38, while in 1881-1882 it was actually higher viz. 1·54 and 1·47.

Coffee is consumed at the rate of 9·22lb. *per capita*. In distilled spirits they are very moderate averaging only 1·12 gallon per head, but in malt liquors the consumption is very ample amounting to 15 gallons *per caput* that is to say for every cup of tea he drinks, Jonathan swigs three glasses of beer ! Would that for his own sake and ours he could be induced to reverse the order !

MARKET FOR TEA SHARES.

Thursday Evening, Oct. 1, 1896.

A steadier tone has prevailed during the past week, and in regard more especially to some of the new issues there has been a slight recovery. In one or two quarters, however, some considerable lines have been sold at rather knock-out prices.

Mincing Lane still keeps very firm, notwithstanding considerable supplies placed on the market; the strongest prices, however, seem to rule for the higher class and fine Teas.

FRESH ISSUES.

Consolidated Tea and Lands.—The Firsts were at one time as low as about 5s. premium only, but they are now buyers at 10s. to 15s. premium, with holders asking a higher price. The Seconds stand round about $1\frac{1}{4}$ to $1\frac{1}{2}$ prem.—*H. and C. Mail*, Oct. 2.

THE DUCKWARI (CEYLON) TEA PLANTATION COMPANY, LIMITED.

Report by the Directors to the Sixth Ordinary General Meeting of the Company :—

The Directors beg to submit herewith the Accounts for the year ending June 30th, 1896. In the Statement of the application of the balance of profit in the Report for the twelve months ending June 30th, 1895, the loan from the Ordinary Shareholders was erroneously deducted. The balance of profit for that year was £1,533 0 2

From which the following only should have been deducted :—

(1) The Preference Dividends	£840 0 0	
(2) The Directors' Fees	50 0 0	890 0 0
Leaving		£643 0 2

to be carried forward, instead of £239 15s. od

From this balance, further deductions, were made by the Board :

(1) In payment of a bonus to the Secretary, who had given his services without remuneration, from the foundation of the Company	£200 0 0
(2) In payment of the Chairman's travelling Expenses in Ceylon, in the autumn of 1894	21 18 6
	£221 18 6
Balance ..	£421 1 8

Inclusive of this last balance, Profit and Loss account on June 30th last, shews a surplus, after writing off 10 per cent. depreciation on value of Machinery and Buildings, of 1,984 5s. 3d., which the Directors propose should be applied as follows :—

(1) In payment of 7 per cent Dividend on Preference Shares ..	£840 0 0
(2) In payment of 5 per cent Ordinary Shares	400 0 0
(3) In formation of a Reserve Fund	700 0 0
.. ..	1,940 0 0
Leaving	£44 5 0

to be carried forward to next year.

The returns of Crop have been 206,671 lb. Tea and 5,790 lb. Cardamoms, against 171,674 lb. Tea and 5,966 lb. Cardamoms last season. For the coming year it is estimated the yield will be 210,000 lb. Tea and 6,000 lb. Cardamoms.

£258 16s 11d have been spent during the past twelve months in sundry additions to Factory and Lines. A system of artificial manuring is being introduced on some backward portions of the Estates, and very material increases of yield are confidently expected therefrom. Mr. Spence retires from the Direction by rotation, and, being eligible, offers

himself for re-election. The Auditors, Messrs. Brown, Fleming and Murray, also retire, and offer themselves for re-appointment. P. G. SPENCE, *Chairman.*
R. CROSS AITKEN, *Secretary.*
17, Philpot Lane, London, September, 1896.

THE CONSOLIDATED ESTATES COMPANY, LIMITED.

Authorised capital £100.000, divided into 5,000 preferred shares of £10 each entitled to a cumulative preferential dividend of 8 per cent., £50,000; 5,000 ordinary shares of £10 each, £50,000; total £100,000.

Fifth annual report of the Shareholders at the general meeting, to be held on Wednesday, the 7th October, 1896, at 34, Great St. Helens, C.C.

The General Managers have the pleasure to submit their Fifth Annual Report and Balance Sheet, together with Statement of Accounts for the Crop Year ending 30th June, 1896.

The Profit and Loss Account shows a balance (including £162 13s. 10d. brought forward from last year) of £6,267 14s. 5d., after paying Interest on the Debentures, and an Interim Dividend of 4 per cent on the Preferred Shares.

Out of this sum the General Managers propose:

	£	s.	d.
To write off the Balance of account for stamps and Legal Expenses in connection with the Estates purchased in 1895, viz. ..	£21		3
To pay a Balance Dividend of 4 per cent on the Preferred Shares, which will absorb	680	0	0
To set aside for redemption of five per cent. of the Debentures at 103	1,751	0	0
To write off from the Factory Extension Account the sum of ..	800		0
To pay a Dividend of 8 per cent on the Ordinary Shares, which will require	1,520	0	0
To put to a Reserve Fund the sum of	1,000	0	0
Carrying forward the Balance, viz.	298	11	2
	£6,267	14	5

The following shows the result of the year's working, viz.:—

NET PROCEEDS OF CROP.

	£.	s.	d.
881,484 lb. Tea at an average net price of about 6½d. per lb. realized ..	23,480	6	2
Interest on Account	119	17	0
	23,600	3	2
EXPENDITURE ON ESTATES.			
Messrs. George Steuart & Co's drafts—R242,962·97 at an average of 1s. 2 7-32d per rupee	14,399	7	
Postages	1	0	
Bonus to Superintendents—R4,000 at 1s. 2¼d.	237	10	
	14,637	17	8
Net Profit on Cultivation	£8,962	5	6

From the foregoing figures it will be seen that the Season was a very prosperous one, the yield of Tea having exceeded the estimates given in the last Annual Report by about 100,000 lbs., and a considerably larger dividend might have been paid on the Ordinary Shares, but the General Managers strongly advocate a continuance of the Policy indicated in their last Report of making provision in favourable seasons for less prosperous times, partly by liberal extension of cultivation and partly by building up a good Reserve.

The outstanding advances made to coolies (commonly called "Coast advances") amount at Current Exchange to £1,031 8s. 1d. This has been paid out of Revenue, and the Superintendents on the Company's Estates certify that in their opinion these advances (with trifling exceptions) are all good and recoverable, but it has been thought better not to take credit for them in the Accounts, and the amount therefore practically forms an additional Reserve Fund.

The shareholders are aware that the Company has recently acquired three new Estates on terms which the General Managers believe to be favorable, and to promise satisfactory results, though it will be some years before these Estates are fully developed. For convenience of reference the following approximate particulars of all the Estates now held by the Company are appended:—

Name of Estate	Ceylon District	In Cultivation In Bearing	Recently Planted.
Wattegodda ..	Dimbula ..	800 ..	Nil
Tallagalla ..	Kalutara ..	270 ..	70
Ellagalla ..	Matale ..	207 ..	20
Hoonoocotua and Hennewille	Kotmale ..	588 ..	30
Wariagalla ..	Nilambe ..	412 ..	85
Rutland ..	Hewaheta ..	414 ..	30
Knutsford ..	Kalutara ..	104 ..	59

	Reserve Suitable for Tea	Forest Waste, Water, &c.	Total Acreage
Wattegodda	.. Nil ..	95 ..	895
Tallagalla	.. 144 ..	15 ..	499
Ellagalla	.. 13 ..	205 ..	445
Hoonoocotua and Hennewille	.. 45 ..	50 ..	713
Wariagalla	.. 140 ..	624* ..	1261
Rutland	.. 87 ..	64 ..	595
Knutsford	.. Nil ..	23 ..	186

* of which 73 acres are planted with Cardamoms and 40 with Cocoa.

The last three Estates having been purchased as from 1st July, 1896, the working of them does not appear in the Accounts now presented, which are for the Crop Year ending 30th June, 1896.

Hoonoocotua and Hennewille are now worked as one Estates, which will henceforth be known as "Hoonoocotua" only. Knutsford, which adjoins Tallagalla, will now be amalgamated with it, and the two Estates will be called "Tallagalla" only.

The followng are the Estimates for the current season's crops:—

	Expenditure, at 1/2¼ per Rupee. R.	£	s	d	Crop. lb. Tea
Wattegodde	83,043	4 930	13	7	300,000
Tallagalla	48,386	2,872	18	4	220,000
Ellagalla	27,960	1,660	2	6	85,000
Hoonoocotua	71,193	4,227	1	8	250,000
Wariagalla	39,987	2,374	4	6	130,000
Rutland	47,906	2,844	8	4	154,600

Also, 2,500 lb. Cardamoms and 30 cwts. Cocoa from Wariagalla.

The foregoing Estimates have been cautiously framed, as it has not been thought advisable to count on such a favourable season as we have just had. It is to be hoped, therefore, that the Estimates will be fully realized, and in that case the results will be quite satisfactory if the price of Tea is maintained and Exchange does not materially rise.

During last Season about 150 acres were opened up, and a further 130 to 150 acres will be taken in hand this Season. The cost of these extensions, and of an enlargement Factory of on Wariagalla, will be charged to the Factory and Extension Account, but the premium realised on the Debentures and shares issued this year (which has been carried to the credit of the Factory and Extension Account, as arranged) will provide for most of this expenditure, which is estimated at about £1,600, during the current season.

The Preferred Shares to the nominal amount of £13,000, Nos. 1,701—3,000, both inclusive, and Ordinary Shares to the nominal amount of £13,000, Nos. 6,901—8,200, both inclusive, which were issued on 1st July last, and are included in those enumerated in the annexed Balance Sheet, do not participate in

the Dividends now proposed to be paid, these Dividends having been earned during the Crop Year which ended on 30th June last. For the same season the Debentures to the nominal amount of £10,000 Nos. 351—450, will not participate in the next drawing for redemption.

ARBUTHNOT, LATHAM & Co., General Manager.
34, Great St. Helens, E.C., 25th Sept. 1896.

PUTUPAULA TEA ESTATE COMPANY, LIMITED.

The shareholders of this Company are to be congratulated on the eminently satisfactory report adopted at the annual meeting today. The report recommends the payment of a dividend of 10 per cent for the year, besides carrying forward a substantial sum and making permanent improvements on the estate:—

Acreage.—Tea in bearing 391 acres; Tea in partial bearing 30 acres; Tea in under one year 33 acres; Liberian Coffee 10 acres; forest—, grass &c, and waste land, 235 acres. Grand total, 699 acres.

The Directors have pleasure in submitting to the Shareholders the accounts for the past year. Tho crop amounted to 153,365 lb. tea (against an Estimate of 140,000 lb.) and 30 bus. Liberian Coffee. The nett average sale price of the former was 44 cents per lb.—The latter realised R174·95. The nett profit of the year amounted to R22,171·41, which with the balance of R2,635·16, brought forward from last year makes the balance at credit of Profit and Loss account R24,806·57. Tho Directors recommend a dividend of 10 per cent for the year carrying forward R4,806 57, to the current years accounts. A sum of R2,736·88, was spent during the year in manuring a portion of the Estate and was charged to expenditure. A sum of R3,217·74, was spent on permanent improvements to buildings and a further sum of R3,5·0, in opening 30 acres in Tea. These items have been charged to Capital account. The Estimated crop for 1896—97, is 165 000 lb. on an estimated outlay on working account of R45,000, which includes R5,000, for manuring purposes. In terms of the Articles of Association the Directors now retire and Mr. Kingsbury and Mr. Suhren offer themselves for re-election. The appointment of an Auditor for the current year will rest with the meeting.—By order of the Directors, AITKEN, SPENCE & Co., Agents and Secretaries.

MARKET FOR TEA SHARES.

Thursday Evening, Oct. 8, 1896.—The general depression in the Stock Markets has reflected itself slightly upon the market for Tea shares, and in some quarters shares have been sold at somewhat easier prices; the general tone, however, in these shares continues fairly strong, and wherever buying takes place prices tend to rise.

Our attention has been drawn to a paragraph in the financial columns of our contemporary *Truth* (September 24), which seems to require notice here.

Truth's Calcutta correspondent gives to investors a warning against being inveigled into purchasing at high prices poor or wornout Tea gardens, and, we cordially endorse this warning. But we must be allowed to take exception to *Truth's* apparent wholesale condemnation of Tea, conveyed in tho concluding sentence of its correspondent's letter, which runs as follows:

"I would warn all capitalists and investors of this grave fact. Bengal has planted out thousands of acres, year by year, also Ceylon. Prices are down, and this year's crops will fall short. 'Touch nor handle not.'"

Here we venture to say that the facts are at variance with these statements, as, up to tho present, Tea prices this season have been exceptionally good, and althought there has been some slight shortage up to date in tho crops, this has been more than compensated for by the much higher prices which have thus far been obtained for the portion of the crop so far sold to date.

Mincing Lane, though slightly easier, keeps, fairly steady, and fine Teas still maintain a high range of price.

FRESH ISSUES.

Consolidated Tea and Lands—We are informed that an official quotation for these shares will very shortly be granted. The Firsts have changed hands at 15s premium, but are now scarcely so high as that. The Seconds, however, still quote £1 premium upwards.

East India and Ceylon shares keep rather sluggish.

Sylhet Co. Shares.—Some may be shortly for sale, and might be open to a fair offer.

PLANTING AND PRODUCE.

THE TEA TRADE OF CENTRAL ASIA.—In the report on Central Asian trade, which appears elsewhere, Vice-Consul Ringler Thomson offers some opinions about the decay of the green toa trade and the respective positions of India and China as competitors in the tea trade of Central Asia. Apropos of this, we notice that Mr. Leslie Rogers, a well-known planter of Northern India, seeks to show in the Allahabad *Pioneer* that in virtue of all that has been done, enterprise to get a footing in the Central Asian markets has not been wanting among the Indian planters, yet their trade has not been an undoubted success. Indian tea exported to Cabul, which is the especial foothold of North Indian desires, was in April and May, 1896 of a value of only R31,445, as against R94,501 during the same period last year; and the same tale is told in regard to most articles of commerce sent to Cabul, to Thibet, or to Western China. Mr. Leslie Rogers maintains that since 1880, when the Afghan War revived the once flourishing green tea trade with Cabul, Meshed, Bokhara, and Samarcand, the planters of Northern India have left not a stone unturned to revive their connection with all these Central Asian markets. Grievances, however, arose for the planters to bear, in the shape of "almost prohibitive restrictions" placed on all trade by both the Amir of Cabul and the new formed Russian Customs Department in Bokhara, and the North Indian planters went in a body to petition Sir James Lyall to get the Government of India to do something in their behalf. Several times, too they have made an effort to get the Amir to receive a delegate at Cabul, and discuss matters personally with His Highness at home, but according to the account, the Amir had "foolish suspicions" as to the real intentions, and on every occasion has declined to admit a trade apostle. Mr. Rogers contends, therefore, that by proceedings such as these, as well as by "keeping up a constant correspondence in the home and Indian papers on the subject," the North Indian planter has not been wanting in enterprise, and that "with little more public spirited support of his interests by the home and Indian Governments he would not compare unfavourably with any other nationality in the race for the markets of Central Asia."

COOLIE LABOUR IN NATAL.—In an article published in the *Globe* on "The British Artisan in Africa" the writer, referring to Natal, says: "It is because the British Artisan has been found unsatisfactory that the people of this most English colony are obliged to fall back upon coolies: and in future indentured coolie artisans will be imported from India. Tho products of Natal have to compete with cheap and efficient labour elsewhere, and the industries dependent upon labour must keep this fact steadily before them. Let us take tea-planting, which is worked entirely by coolie labour. This industry has to compete with the teas of India, Ceylon, and China. It is not sufficient to raise the quality of tho tea to the same lovel,

but the cost of production must also be comparative. Indirectly and directly, the British Artisan has a good deal to do with tea. Until recently only English mechanics were employed to clean and repair the machinery, and only English artisans were in the carpenters' shop at Nonoti. But they have been replaced by coolies, who are not only cheaper, but more handy and less troublesome. The British workman is frequently spoken of as 'a difficulty' in Natal. There must be something manifestly wrong for a colony so essential English in its tone and warm in its welcome to English settlers to have to come to the decision of importing coolies."—*H. and C. Mail*, Oct. 9.

TEA GROWING IN SOUTH CAROLINA, U. S. A.

Mr. Charles U. Shepard, of Pinehurst, South Carolina, U. S. A., writes under date Sept. 28:—

"My little experimentation with the cultivation of tea in this country has been thus far successful that during almost the entire picking season of 1896 the orders were in excess of stock on hand. I intend increasing my acreage by planting out more gardens of Darjiling and other suitable seed until I reach the limit of the capacity of my factory."

We shall be glad to learn the result of Mr. Shepard's further experiments.

THE NEW DIMBULA COMPANY, LIMITED.

REPORT, SEASON 1895-96.

The Directors, in submitting their eleventh Annual Report, have the pleasure to state that the past season has been satisfactory in all respects.

The yield of Tea exceeded the estimate and the prices were better than in the previous eason.

The additions to the Factory and Machinery, referred to in last year's Report, have been carried out, and the Estate is reported in good order.

The area of land in bearing is 2,193 acres, and the Directors have sanctioned the opening of an additional 50 acres during current year.

The accounts now presented show a surplus of £20,433 0s. 5d. after writing off the amount of Tea Extension account, viz., £166 18s. 10d. and the amount of the "Factory and Machinery account," viz., £3,259 0s. 10d. The Directors propose a dividend of 8 per cent. per annum on the "A" and "B" shares and 6 per cent. per annum on the "C" shares for the year ended 30th June last, a moiety of which was paid in March. The Directors also propose an additional dividend of 8 per cent. on all shares, and the placing of £5,000 to the Reserve Fund.

The Ceylon Manager has dealt very efficiently with the Factory extension, with the labour supply, and with the general manufacture, and the Directors desire to express their great satisfaction with the management, and with the work of the staff in Ceylon.—By order of the Board,

A. CRABBE,
Secretary.

THE TEA TRADE WITH CHINESE TURKISTAN.

Many of our readers are planters. It is to them that our leader is addressed. At the same time we would impress upon all who are interested in opening out the trade with Central Asia the necessity of bringing before the Commerce Department the fact than is their duty to guard and foster our commercial interests along this most promising of our trade routes, which leads over the northern frontiers of Hindustan.

The *Pioneer* has most steadily endeavoured to arouse public attention in the Leh-Yarkand trade. The *Civil and Military Gazette* has followed suit. Those journals of course take up the question from a political as well as from a commercial view. We however—although as citizens we deplore the want of energy of the powers that be—have chiefly to deal with what affects so many of our constituents, and will confine our remarks to the tea trade.

That good Indian-grown tea is preferred to the Chinese article is well-known to travellers who have journeyed over the Keradoram ranges, but the tea must be of the best; it must be suited to the taste of the purchasers. A clean, well-rolled black tea, with a certain proportion of green added, is what appears to be most appreciated, but it will probably be found to be advisable to send samples of both green and black in order to thoroughly test the market.

Leh is not so far distant that any planter need dread the journey, and he might do worse than spend his holiday on a trip through Kashmir and on to Leh, taking with him carefully packed samples of the products of his garden. Now is the time to meet the traders. They are all assembling in Ladakh, and will shortly be *en route* to Srinagar, but we repeat ourselves in hopes of impressing on our readers the fact that the Kashmir Ladakhi and transfrontier tribesmen are connoisseurs; even the poorest will not buy rubbish of the kind formerly exported to Kabul as green tea. To the traveller tea in his one luxury; as soon as the packs are off the ponies a little burtze or other fuel is collected, and the Samovatur is set to boil. The villager, directly he returns from his fields, has his bowl of tea; it is a beverage eminently suited to their tastes. It is true they add salt and other condiments which are not suited to our Western palates, but they declare it brings out the flavour. It is the business of the planter to supply a tea which is capable of having flavour, and not to imagine that "any stuff is good enough for the uncivilized people who live amongst the uplands of the Himalayas."

The distrust of the merchants has to be overcome, for they all know that inferior teas were formerly sent to Central Asia, but this distrust can be overcome by any one who will cater for the taste of his customers and will strictly keep his wares up to standard. The Central Asian trader is generally a Pathan; he is very quick at seeing his own advantage, and would gladly deal at first with a European. He *cannot*, however, afford to make a false step, and must feel that he is sure of his market, and that depends entirely on the goodness and suitability of the tea.

The trader's time is a rough one. After arriving in Leh in the early autumn he has first to recruit his ponies, selling off some and turning others out to graze in the lucerne fields where they gathered strength for the return journey. Whilst this is going on he sells his Yarkand goods and buys coral, piece goods and other articles which are sent up from the Panjab. Then he enters on his dreary march to Yarkand with no chance of changing his carriage *en route*. On arriving there, he has either to retail his goods or hand them over to a middleman who seldom pays until he has sold the stock. Their ideas of trade are peculiar. A Pathan trader who had brought goods from India passed on most of them to a shop-keeper. Wearily he waited for payment. After a year had passed the man who was anxious to be off sued his debtor; the Court decreed that the merchant was entitled to hand over the balance of his goods to the retailer, but that he must wait for payment for the whole lot until he next returned from Leh. Many of the merchants are men of substance; they can afford to wait for their money, and, what is more to the purpose, they can pay in Leh for the goods they require in spite of their difficulties in Chinese Turkistan. We do not advise any European to endeavour to trade in Yarkand or to send their own caravans, but as far up the route as Leh there are no difficulties; either by the Kulu or Srinagar roads the pony-owners will

carry goods by contract. Indeed, when the tea has once been thoroughly introduced, there is little doubt that the traders would buy it in Srinagar. There would be no difficulty in establishing an agency in Kashmir, but at first it will be necessary to work in Leh.

As to the tea trade with Kashmir, most of what is drunk is Indian tea, although the villagers think it is Chinese. The demand is increasing, and will continue to do so, for the people are waxing fat and prosperous. Three to four rupees is not an uncommon price for what is called "Bombay tea." It is supposed to come from China, but is in reality an Indian product. The profit made by the middleman is very great, but the planter would have great difficulty in getting the market into his own hands; still, when prospecting for the Chinese-Turkistan trade, he might find that something could be done in Srinagar. We are inclined to think there are possibilities in both places, for the demand for tea is a large one. Tea reigns supreme; coffee and cocoa are not its rivals; and amongst the Mussalman races it takes the place of beer. In Ladakh *chang*, the beer of the country, is used on festive occasions, but tea is the universal drink.—*Asian*

DESTRUCTION OF TEA FACTORIES BY FIRE.

Within the last few weeks the destruction of two large tea factories by fire have been reported. To those who have seen the splendid buildings now erected on tea estates, it appear most strange how a fire on a big scale can possibly take place. Every precaution is taken to make the factories secure from fire; in fact, it may be said, they are practically fire-proof. Even about old tea-houses, built years ago, means have been adopted so that there should be no chance of any portion catching fire, and yet there remains the fact that fires do take place, and every year one or more tea-houses are burnt to the ground. As a rule, the cause of the fire remains a mystery, *i.e.*, if the fire has broken out in the tea-house itself. Surmises are made, explanations of sorts are given, and eventually after much wasting of pen, ink and paper, and many inspections, the matter is burked, and in course of time allowed to drop. It is true that in the majority of tea-houses a very considerable amount of timber is to be found inside them, in the form of posts, beams, rafters, planks, etc., but these are always so well protected by the adoption of various means that to one acquainted with them, it simply appears marvellous how they can catch fire to such an extent as to set the whole building in a blaze. The roof is all corrugated iron; sparks from the chimnies of the engine and dryers cannot set fire to the building from outside. Doubtless all timber in close proximity to dryers and their funnels get very dry in course of time, but these portions are always protected by a casing of zinc sheeting or some fire-proof substance. In many instances, when a factory has been burnt down, it has been owing to the stacks of firewood outside having been erected too close to the building. In such cases of course, if the stacks, owing to any cause, catch fire, it is practically impossible to save the tea-house: especially if there is the slightest breeze or wind blowing the flames in the direction of the factory; it is simply doomed. Managers and tea-house assistants are most assiduous in their attentions, and we think we may safely say, that no tea-house has ever been burnt down in the last ten years, with a European in charge, inside on duty. It is of course quite impossible for the Manager or Assistant to be always present in the building, unless a special tea-maker is employed, whose duty it is to devote his whole attention to manufacture. Such being the case, we can only attribute a conflagration, except of course in exceptional cases, to either of two causes: (1) Gross negligence, or carelessness, on the part of the natives on duty in the building; or, (2) deliberate setting fire to the building by some native or natives. We are of opinion that many tea-houses have been deliberately set fire to by natives, and if it was possible to bottom the real facts and trace them to their source, it would be found that natives to satisfy some private or imaginary grudge, have wantonly been the cause of the conflagration. Natives think nothing of incendiarism. A coolie or coolies, perhaps, have a row with the *sahibs*, or with the sirdars, or with their *jat-bhai*, or it may be with all combined Drunk with liquor and mad with rage, to vent their spleen they watch their opportunity and turn incendiaries. There is always a chowkidar supposed to be guarding a factory, but he is generally an invisible force, and, if not actually sound asleep, he is bound to be at the other extremity of the building. The firing process is not a very difficult one. All coolies on a garden know the inside of a tea-house pretty well, and exactly where the kind of materials they require lie. The coolie or coolies secure the tea bulking cloths, or hessian withering cloths, or it may be the firing cloths, then collect whatever they can lay hands on in the shape of fuel, it may be tea box shooks, or bits of planking, or firewood. A pile soon made in some spot, either inside or outside the building, where a blaze will set the whole place on fire. Possibly some kerosine oil is poured on, a match is struck and applied, and a memorial bonfire the result. What European is there in the whole of India, who can say he has fathomed the inmost depths of the cussedness of a native. Even if the coolie or coolies did not take all the trouble to go through the elaborate process dedicted above, there are hundreds of ways of setting fire to a building, if a man or men are maliciously intent on the job. If they are determined to set a tea-house on fire they will find the way and means, and the building which was considered practically fire-proof will soon be wrapt in flames. All the vigilance of Managers and Assistants, or the ingenuity of engineers and builders, will not avail against such scoundrels. Incendiarism is a common form of revenge in India, and has flourished for ages. The culprit or culprits are seldom caught. If done in secrecy, he or they get off scot-free. After the building has been burnt down to the ground, it is impossible to trace the origin of the fire—the first intimation of which has perhaps been a lurid glare in the sky, if at night, or a wild hubbub and running about of excited coolies if in the day. In the ensuing bustle and confusion everyone, more or less, lose their heads, and the incendiaries, if they have not already cleared off, mix in the crowd, and, perhaps, to evade suspicion falling on them, make a show of helping to extinguish the flames. Even if suspected there is no proof to convict them, unless caught red-handed, and so they escape. The total destruction of a tea-house by fire is always a most serious loss. Even if fully insured, the insurance money goes but a little way to recoup the real loss to the estate. It is the most dire calamity that can possibly happen to a large garden, especially if situated a distance from any neighbouring estate, which might possibly be able to help manufacturing the leaf. If destroyed during the height of the manufacturing season, it simply means the dead loss of some hundreds or thousands of maunds of tea, not covered by insurance. Moreover, it puts the whole working of the garden out of gear, and takes months before the old order is restored and things work smoothly again.—*Indian Planters' Gazette*, Oct. 17

THE AMSTERDAM MARKET.

Further details with regard to the cinchona sales of last Thursday state that the demand for Manufacturing barks was good, but without any inclination to strong competition, and in all cases where importers took up a firm stand the buyers invariably left them alone. This accounts for the fact that 5,122 kilos of quinine in the bark remained unsold. The richest parcel at auction was 132 bales crushed Ledgeriana, containing 11·60 per cent of sulphate of quinine. This lot only realised 30½c, or 5¼d per lb. Druggists barks were decidedly firmer all round, and for fine whole and broken quill an advance on the former auctions was paid. Medium grades were also well competed for, but common lots were slow of sale.—*Chemist and Druggist*, Oct. 10.

LEAVES FROM A PLANTER'S NOTE BOOK.

(*Contributed by a Planter.*)

Plucking and Kindred Matters.

I.

The general rule on all gardens is to pluck two leaves and a bud, or two and a half leaves and a bud. But after the first two flushes are off, and specially when there is an abundance of leaf, the rule is more honoured in the breach than in the observance thereof. Theoretically the rule is supposed to be in force, but practically it is a dead letter. When inspecting the leaf brought in, during the process of spreading it out for withering, I daily find that the major portion of the leaf plucked consists of three to four leaves, for the most part all on one stalk. Managers and Assistants do their best to prevent this, but on large concerns, especially during the height of the season, it is practically impossible to prevent the pluckers bringing in the extra leaves. In fact, the pluckers themselves cannot well be blamed. Outsiders can form no idea what plucking means. Only planters and garden coolies learn from experience what it really is. Plucking is no child's play and is an *art* only learnt by hard-persevering labour. I use the word *art* advisedly, and I feel sure my brother planters will back me up in my assertion that plucking is an *art*, and not merely an art, but, I may almost say, one of the fine arts. The amount of skill required to be a successful plucker is by no means small. Only a planter knows what a cunning hand, and what skilful manipulation is required, before one can become a really first-class plucker. There are pluckers and pluckers, but what a difference between them. A planter is simply delighted when he finds a plucker who *can* pluck. There are no pluckers like women, and amongst women none that will compare with the Nepalese, or other hill women (Paharîahs), working on the hill gardens in Darjeeling and the Kangra Valley. Men make wretched pluckers; their hands and fingers have not the necessary pliability; they are too hard and coarse. Children pluck fairly well, when they can be persuaded to put their minds to it, and girls often turned out adepts at it. The value of women and girls who can pluck is beyond estimation; they are worth their weight in gold. The study of plucking and pluckers is a most interesting one, and if some of my brother planters will only jot down their experiences, and send their notes down to this journal, I feel sure the Editor will be delighted to insert them. There is an Indian plant, a medicinal herb of great value, which, unless plucked off by one clear cut of the nail, loses its peculiar properties and is rendered valueless. I have sometimes thought that if we really sifted the matter thoroughly it might be somewhat the same with tea. I have a faint kind of idea that the *manner* the leaf is plucked has a deal to do with the quality of the tea manufactured from it. My own beliefs is that leaf plucked off with one clean cut of the nail, withers better, ferments better, and altogether turns out better tea, than leaf carelessly stripped or broken off the bushes. Some planters may laugh and consider the idea an absurd one, but it is little things like these that sometimes make all the difference. Anyway, to any planter who may possibly have the leisure, which unfortunately I have not, and who will not mind the sweat, the experiment is worth trying. I have read many articles on the subject of plucking my machinery, but I have no doubts as to any mechanical contrivance ever proving a success. Even if a machine was invented that would suit all bushes, and run through a garden plucking or rather cutting off the leaves promiscuously, the results, I much fear, would prove disastrous. Scissors and clippers of kinds have been invented, but after numerous experiments it has been found that, so far, the natural method of plucking by the hand is out and out the best. Everything, I may say, depends on the plucking. Leaf should be taken off *just when ready*, not a day earlier, not a day later. If taken off *just when ready* it makes all the difference in the outturn. A ripe leaf is doubtful, an over ripe one bad, *decidedly bad*. It is an utter impossibility to make tea, much less good tea, out of leaf tough as shoe-leather. Managers and Assistants know exactly when the leaf is ready, and would gladly pluck it, but alas! their hands are tied, and they cannot do the things they would do, for they have not the coolies. Here comes in the question of the labour force, an ever-diminishing quantity—but that's another story, and although it has everything to do with the successful plucking of a garden, we cannot more than touch on the fringe of it here. The simple fact remains, that if tea of good quality is to be made, the only way to turn out such tea is to pluck the leaf *exactly when it is ready* —neither earlier nor later. It is no use having an extensive acreage if the labour force is not sufficient to work it. Managers often get unjustly blamed for things, when the fault is not theirs at all, but lies at the door of others, who shift the blame on to them to find a way of escape for themselves. No fixed rule can be laid down for the plucking of bushes. The majority of gardens contain a mixed *jat* of plants, and they require plucking according to their class. Planters know from experience exactly when their bushes are ready for plucking, and do their utmost to take the leaf off in due season. If, however, owing to sudden rushes of leaf and heavy flushes they do fall behind, it can only be attributed to insufficiency of labour. Naturally the tea manufactured also deteriorates very considerably in quality. The remedy in such cases is *not* in the writing of "stinkers" to already overworked and half-demented men, but in the frank recognition that, it is utterly out of the power of the employs to cope with the extra work, with a short labour force. If there is anything that disheartens a planter, it is the recieving of a "stinker," when he is slaving like a coolie and doing his utmost to pull through the crisis. Theoretical letter, written under a punkah in a nice cool office, are all very well in their way, and most excellent studies for leisure hours in the cold weather, but they don't read well, when perused by a *practical* man working in the sun, or in a tea house, with the temperature at 120. They have the most undseirable effect of rubbing him up the wrong way, and instead of helping to mend matters, only tend to deprive him of all heart and spirits for his work. There is nothing more depressing at such times than one of these "extinguishers" written perhaps by some inexperienced hand, to one who has been through the mill, and is a veteran in the service—to one at any rate who has his wits about him and knows exactly *what* to do and *how* to do it. It is not, however, the Manager alone who suffers. If there is a Tea-maker, or tea-house assistant in charge, he comes in for his share of "the beans." All hands on the garden suffer more or less, noses are put out of joint, and the air is thick with anything but blessings, and all because the leaves will not stop growing, but insist on going *bhanji* and turning into leather. I have stated what the remedy is *not*, the question as to what the remedy *is*, quite a different matter. Solutions without number have been put forward and discussed from time to time, but the problem has not yet been solved, for year after year the same difficulties crop up, the same leaf is plucked, and the same "undesireable" teas are made. Gardens with an adequate and ample supply of coolies to meet all exigencies are not in the category. I do not allude to them, for they invariably send down good teas to the market. It is for gardens short of labour, and practically with no labour at all when most wanted, that the problem has to be solved,—How to pluck with a short labour force and yet make good teas? This is the question, and doubtless the answer will work itself out in time, but at bitter expense. Yearly new gardens are being opened out and large extensions made, but the supply of coolies is not equal to the demand, and in proportion the supply of the class of labourers suitable for garden work is dwindling down gradually but surely. Coolies, more coolies. This is the cry. Who will give us more coolies, and where are they to come from?

Many gardens have not a sufficient labour force to cope with the gardens work at ordinary times, much less when there is a heavy rush of leaf, or a heavy flush on. Then, every soul has to be put on to plucking—men, women and children. All have to ply their fingers and a general ripping off the leaves commences. Stripped off, torn off, broken off their parent stalks anyhow (sometimes stalks and branches are brought in wholesale, the coolies employed on such occasions not being particular), the leaves are brought into the factory to be manufactured. Then indeed it is a pretty sight, and how the heart of the tea-maker doth rejoice, when he picks up stalk after stalk with five and six leaves on it! How he does pray for the long life and prosperity of his beloved Aryan brethren! Then having said his prayers, he sets to think it out how this conglomeration of sticks, stalks and leaves is to be made into tea. Into tea, however, it is made, and when it reaches the market, the brokers make rude remarks about it, and class it as "most undesirable," and, worse than all, sell it off for what it will fetch; and this after all the trouble and worry and bother there has been over the plucking of the leaves to make it. Well, at any rate, quantity has been made if quality has been sacrificed. A big invoice has at any rate been despatched, and we have always been informed that big invoices sell better than small ones. So, perhaps, we shall partly make up for quality by quantity. But alas! when the tea sales are published, we find that the big invoice were sent down, and which we expected to be sold in one lot, has been spilt up and divided into two or more invoices, and apportioned to different brokers, and sold in two or more lots with the result that the teas did not realise the prices we expected for them. On top of this comes a wire. "Teas most disappointing." Telegrams of this type always gladden the heart of a planter, they give him a good appetite, and make him look forward to a substantial bonus at the end of the season and a princely rise of salary? What will the end be if we continue much longer short of labour? Shall we have to employ the heathen Chinee? They are already being largely employed on gardens as carpenters. Why should we not engage families of them and employ their wives and children for plucking and other works? They will cost more than the indigenous native, but if we cannot recruit sufficient labour in India itself, we must engage foreigners. Chinese women would most probably make excellent pluckers. Now that the Chinese are losing their tea trade in their own country, owing to a great extent to their conservatism, if they found a field open for them on our shores, they would doubtless immigrate here in large numbers to the tea districts. Out of China they would not stand on their ancient ways, and would soon come under the yoke of the foreign devil and barbarian so hateful to him in his native land. Calcutta is full of Chinamen; they make most excellent carpenters and shoe-makers, and the men would doubtless make splendid tea-makers. One good quality about them is that they do not require much looking after. Once they understand what they have to do, "John" is all there. The subject of fine or coarse plucking is an exhaustive one, and it is impossible to do it anything like justice in this paper. The remarks here made are only from jottings noted down in his few leisure moments by a hard-worked planter. He lays no claim to literary ability, nor does he deem himself competent to write a learned disquisition on the subject. Doubtless some will appreciate his humble efforts to edify and amuse and, if so, he will not have written in vain. Knowledge is always gained by interchange of thoughts so he lets drop these few crumbs with the hope that some brother-planters will follow his example and begin to contribute their quota to the sum of general knowledge by writing down their thoughts, feelings and experiences in a similar manner. It is impossible for us all to agree on any one subject—there are many ways of looking at an object, and the pictures vary and are as numerous as the points of observation. No two minds think exactly alike—it would not be human nature if they did. But although we differ on minor points, in essentials all our various and differing thoughts and feelings can be brought into one focus blending in one harmonious whole and forming a kaleidoscopic picture worth the framing and handing down to posterity.—*Indian Planters' Gazette*, Oct. 17.

THE AMSTERDAM CINCHONA AUCTIONS.

Our Amsterdam correspondent, telegraphing on Thursday evening, states that of the 5,365 packages of Java cinchona offered at auction today, 4,338 sold at the average unit of 2·55c per half kilo, being the same as that of the previous auctions. The English and American manufacturers were the largest buyers, the equivalent of 755 kilos of sulphate of quinine being taken by them. The Auerbach Factory purchased 4,121 kilos, the Brunswick Factory 1,864 kilos, the Mannheim and Amsterdam Factories 3,903 kilos, the Frankfort-on-Maine and Stuttgart Factories 2,774, and various buyers 3,702 kilos. The following are the range of prices:—Manufacturing barks 3½c to 30½c (equal to ⅝d to 5½d per lb.); Druggists' barks, 9½c to 95½c (equal to 1⅝d to 1s 5d per lb).—*Chemist and Druggist*, Oct. 3.

OAHU AS A FIELD FOR COFFEE.

In another article we have shown at some length the necessity for inaugurating plans for the development of the Island of Oahu and also to protect and maintain an increased business for Honolulu. A short time ago it was our good fortune to visit the Waianae plantation and while being hospitably entertained by manager Ahrens were given some information in regard to his experience with coffee planting in the Waianae valley. Mr. Ahrens has about 60 acres under cultivation upon which has been planted about 50,000 coffee trees the plants running from one to three years. The estate is about five miles from the sugar mills or Waianae station and is reached by a splendid carriage road of about four miles and the balance of the distance by a well-made trail or bridle path. The cultivated portion is situated on the slope of a gulch backed on the north-east side from the higher elevations by an almost perpendicular mountain. The slopes on either side of the gulch are easy grades and result in a narrow valley of varying widths at the bottom. Mr. Ahrens has made a beautiful place of this gulch. At a convenient spot are located the neat and comfortable homes of the workmen close to which has been erected a private residence for Mr. Ahrens. An abundant supply of pure water oozes out from numerous springs in the hillside which is used for irrigation and household purposes. One of these streams has been diverted into a large swimming pool surrounding which as well as the houses are beautiful flower gardens containing every variety of roses and rare flowers all singularly healthy and free from blight. A large number of lime and orange trees have also been set out and are doing well.

Returning to the coffee plantation as we stated above there are about 50,000 trees growing all healthy and vigorous. The older trees are actually loaded with berries and although not quite three years old will yield this year about seven tons. One three-year old tree for example had 48 primaries and one of these by actual count contained 147 berries. As 700 whole berries make a pound the average to a tree would be very large. Mr. Ahrens considers that nearly all the valleys and gulches on this island are equally well situated for coffee and is confident that if developed in a few years millions of dollars worth might be produced. Anyone wishing to verify these statements can on any Saturday make a round trip to Waianae for $1.25 and for another dollar for a saddle horse the plantation can be reached in good time to enable the visitor to return to Honolulu the same day. This is but one of many industries that might be taken up in Honolulu.—*The Hawaiian Commercial Journal and Maritime Report.*

COFFEE PLANTING IN SELANGOR.

In his monthly report for August (as given in the *Selangor Government Gazette* of Oct. 9), the District Officer of Klang says:—

During the month Mr. L. Davidson, of Ceylon, visited the district and inspected most of the coffee gardens, including "Highlands" and "Golden Hope" estates as well as Mr. T. H. Hill's 2,500 acres block, Mr. A. Forsyth's estate and the Dato Dagang's 14-year-old coffee. He also visited the Langat River between Kuala Klang and Golden Hope estate and inspected a portion on the right bank of the river within the reserve J, close to the Pedamaran Javanese holdings.

The Acting District Officer, Kuala Langat, reports:—

The area demarcated during the month amounted to 370 acres, which were distributed as follows:—

		A.	R.	P.
Bandar Mukim	..	115	0	0
Klanang Mukim	..	255	1	24
Total	..	370	1	24

Although a larger area than usual has been demarcated, applications are now coming in with a steady rush, and the result is that there are now 874 acres still undemarcated.

Klanang, as will be seen from the above return, is flourishing extremely and coffee land there is already beginning to fetch high prices. Much of the land bordering on the Coast Road at Klanang is really rich and only wants capital and care to produce a first-class berry. The Tukang Kepala has several acres of splendid coffee near the junction of the Bandar and Klanang Roads. Native tobacco has from time to time been very successfully grown there by the Javanese. At Tanjong Duablas (Telok Besar) I have laid out a new kampong site, and on the whole the present state of agriculture in the district may, I think, be considered satisfactory when the isolated and roadless state of the greater part of the district is taken into consideration.

PLANTING AND PRODUCE.

CEYLON TEA AND THE UNITED STATES MARKET.—From a communication from Mr. William Mackenzie to the chairman of the Ceylon Planters' Association in the Ceylon papers it appears that the packing of more than four kinds of tea for the United States is deprecated, and what are regarded as suitable prices for long lines of tea are quoted, there being an objection to tasting or handling teas running up by single cents per pound. Complaint is also made against small breaks.

TEA MACHINERY FOR CHINA.—As we hear that enquiries are being made from China with reference to tea machinery, we advise those manufacturers who are not already aware of the little peculiarities of the Chinese to act cautiously before imparting information, even if it be in serious contemplation to use tea machinery. There are no patent laws or anything approaching them within the Celestial Empire, and the imitative faculty of the Chinese is well known.

THE DOCKS AND THE SHIPPING COMPANIES.—The London and India Docks Committee has, it is said, concluded an agreement for five years with the Peninsular and Oriental Steam Navigation Company, wherein almost every demand made by the Docks for increased remuneration has been surrendered. Some small payment for special berths is to be made; otherwise all is to be as before.

THE BOTANICAL SURVEY OF INDIA.—Some excellent work has been done by the Director of the Botanical Survey of India during the past twelve months. Thus, one of the botanical collectors, Harsukh, managed to visit Pir Ghal, the highest peak in Waziristan (about 11,500 ft. above the sea), and other localities which have not hitherto been accessible to Europeans, or even to natives of Hindustan. Again, the largest and most important collection made during the Chitral expedition was that of head botanical collector Inayat Khan. Specimens were collected all along the route as far as Chitral, and excursions were made from several of the camping grounds up to a height of 11,000 or 12,000 feet. The Pamir Boundary Commission was also fruitful in valuable botanical results, due to the exertions of Surgeon-Captain Alcock, who was attached to the Commission as the medical officer and naturalist. It is intended to publish an account of his work in a volume on the natural history of the Pamir Boundary Commission. Further, an inquiry has been initiated in connection with the outbreak of rust in Indian wheat, which is likely to lead to a number of interesting observations on this very important subject.

COFFEE.—According to Messrs. During and Zoon, the European stocks on the 1st inst. showed a decrease of about 700 tons, whilst the visible supply showed an increase of about 23, 930 tons, the figures being 82,950 tons and 219, 300 tons respectively, against 83,650 tons and 195,370 tons on September 1. The first offers of East Indian colory coffees have made their appearance in our market already, says the *Commercial Record*, but, as usual, no business resulted. There is in our belief hardly another trade where the maxim of "give and take" is more needed and frequently practised than in the East Indian coffee trade. Invariably sellers and buyers are shillings and shillings out at the beginning of the season, but judicious persuasion of the honest broker at both ends of the sea gradually brings the opposing poles into close proximity, and at last business results. A Coorg crop at 95s c.f. and a Neilgherry at 90s c.f., although both hailing from good estates, were found xeorbitant here, and bids of about 5s less were proffered by speculative buyers in our market, which, however, met with silent scorn on the part of the Indian planters. In the face of their small yields this year, planters are naturally more stubborn than usual, and will require a lot of work to bring them down to reasonable prices, but at the best the arrival business this year will be, we fear, confined to small limits only, for, according to the latest reports, Chickmagur promises to fall short 50 to 60 per cent. of last year's yield, and Coorg at the very least 30 to 35 per cent. In other districts the prospect are even worse; some are returned at half of their last year's gatherings. It may interest those dealing in these fine East Indian sorts that the total export from Coorg during the year 1895-96 is shown to have been about 3,650 tons. Stocks of light coffees in the principal European ports are about the same as last year, so there is no lack of available stuff, and if Indian planters with to dispose of their crops on arrival terms, it will be advisable not to hold out for impossible values, or otherwise they might be compelled to run the risk of the market until their gathering has reached the hammer of the London broker.—*H. & C. Mail*, Oct. 16.

A CUP OF TEA.

This was the title of a lecture delivered last week at the Agricultural Hall in connection with the Grocers' Exhibition. The lecturer was Dr. Goodfellow, who dealt with the subject from a general point of view. If the lecturer succeeded in impressing his audience with the importance of using tea to the best advantage by brewing it properly, his lecture will have served a useful purpose. After describing the tea plant and the method of dealing with the leaf, the lecturer said: "The average composition may be taken as follows: General composition of black tea—water, 8·10; theine, 3·35; albumin, 18·01; nitrogenous extractives, 5·82; dextrin and sectin, 1·21; organic acids and oil, 1·04; tannin, 17·02; colouring matter and resin, 3·21; cellulose, 35·89; ash, 6·35—100·00. Green tea differs slightly in composition from black, containing considerably more tannin and slightly more essential oil. A few words on the properties of these bodies will prove of interest.

Theine has the formula $C_8H_{10}N_4O_2$, consisting of carbon and the gases nitrogen, hydrogen, and oxygen in chemical combination. In the pure state it is a white body crystallising in needle-shaped crystals; it has no smell, but possesses a slightly bitter taste: it dissolves freely in hot water. It is classified by many chemists among the vegetable alkaloids, and may be regarded as a powerful stimulant to the circulatory and nervous system; it is therefore the stimulating constituent of tea. Albumin belongs to the proteids or flesh-formers, but as it does not pass into the infusion I need not dwell on its properties and uses. Nitrogenous extractives are unimportant from our point of view, and so are the colouring matters, cellulose and ash. The volatile oil present, however, deserves a few words. It is believed to be produced in tea during the process of preparation, as it has not yet been found in the fresh green leaves. When obtained pure by distillation it is of a yellowish colour, and smells strongly of tea. It is very volatile, and is the constituent which gives to tea its characteristic aroma. It acts as a narcotic on the nervous system. Tannin is the astringent constituent of tea, and is closely allied to the tannin of the oak bark. It has a bitter taste and possesses the property of combining with animal membranes. It has a constipating action on the bowels. It does not dissolve out very rapidly from the tea-leaves, but after about five minutes the rate of solublity increases. The injurious effect of badly prepared infusions of tea are mainly due to the tannin present. Tannin gives a greenish black reaction with chloride of iron and this reagent may be employed to compare qualitatively two samples of tea for tannin acid. There are certain other organic acids present in tea which I am of opinion may exercise a harmful effect on digestion. We are mainly interested tonight, however, with the stimulating constituent of tea, viz., theine. I have already pointed out that theine is composed of carbon, hydrogen, nitrogen, and oxygen, and I have here on a table the result of the ultimate analysis of a portion of theine. It is a very interesting and wonderful subject to consider how these elements are combined to form a body like theine. Carbon is a black solid, hydrogen an inflammable gas, nitrogen a gas with no very striking properties, oxygen is the gas which supports all combustion. These elements, so dissimilar in properties from each other, are combined in suitable proportions to form this white crystallised stimulant. A few experiments with these gases will help to bring home this interesting fact to your minds. Oxygen gas is an invisible, inodorous, and tasteless gas. It will not burn of itself, but causes other bodies to burn with great rapidity. A piece of sulphur, phosphorus, or even iron wire will burn brilliantly in oxygen; and I will now proceed to demonstrate its properties to you. [Dr. Goodfellow here performed a number of striking and brilliant experiments, showing the wonderful powers of oxygen in supporting combustion.] Hydrogen is a light gas, the lightest substance known in fact, and will not support combustion, being in this respect quite unlike oxygen. It burns, however, very readily with a blue flame, producing water, and with air forms explosive mixtures. [The lecturer performed a number of experiments with hydrogen, showing its important properties.] Nitrogen, the other constituent of theine, is also a gas, but it will neither burn nor support combustion. It has few positive properties, its chief use in nature being to dilute the oxygen of the air, of which it forms 78 per cent. [Experiments were here shown with nitrogen.] These elements then are chemically combined to form theine, the active stimulating constituent of tea. Of the bodies which I have mentioned as composing the tea leaf, theine, tannin, and the volatile oil are the chief found in the infusion. Very few people know how to prepare tea properly. Many believe that unless the liquor be dark it is of inferior quality, while others think the strong acrid taste of the liquid obtained by allowing tea to stand for a long time indicates high quality. These ideas are wrong. The acrid taste is due to tannic acid, a body which is injurious to the system in excessive quantities, and therefore indicates a badly prepared infusion. The chief objects in the making of tea are—(1) to obtain the maximum of theine with the minimum of tannic acid; (2) to develop and bring out the aroma. Now the longer the leaves steep in the water, the greater the quantity of tannin dissolved out. It follows, therefore, that to allow tea to brew too long is a mistake, as the flavour is spoiled by the predominant tannin, and the infusion acquires injurious properties. Further, the aromatic oil is largely lost by evaporation by allowing the tea to stand too long. In order to secure the best results the following plan is recommended. Two earthenware teapots are required, and both should be heated dry in front of the fire. The dry tea should be placed in one of the pots and allowed to remain in the closed warmed teapot for about one minute. This brings out the aroma. Water which has just come to the boil should now be used in the preparation of the beverage, and the whole allowed to stand from three to five minutes according to the kind of tea. At the end of this period the liquor should be poured into the second heated tea-pot, and is then ready for the table. Recently, many teapots have been invented with the object of achieving the same result without the bother of pouring into a second pot. The principle in many is an arrangement whereby the tea is placed in a separate vessel called the "infuser," and boiling water poured on in the usual way. After four or five minutes by a contrivance the infuser is withdrawn to the upper part of the pot, and thus undue soaking is prevented. Tea prepared according to this plan contains a fair quantity of theine and a minimum quantity of tanic acid. The aroma is also well brought out. The leaves should not be used again for a second brew, as a second liquor would contain a large percentage of the tannic and other organic acids most injurious to the digestive system. What are the effects of properly prepared tea taken in moderation? In the ordinary properly prepared infusion the action of the volatile oil and tannin may be neglected, the physiological effects being chiefly due to the theine. Regarded in this light tea is a stimulant to the circulatory system. It quickens the pulse slightly, and accelerates the respiration. The theine also acts specifically on the nervous system, stimulating thought and mental processes. It also acts on the skin, increasing perspiration. In this way it generally acts as a refreshing agent to the whole system, and often acts so specifically on the brain as to cure or palliate nervous headaches. It cools the body, too, by inducing activity of the sweat glands, and its effect is not followed by any marked reaction. But if tea—even properly prepared—be taken regularly in excess, it acts injuriously on the body. It produces hyper-excitability, sleeplessness, trembling of the muscles, palpitation of

the heart, and many chronic nervous ailments are produced by excessive tea-drinking. When tea is badly prepared, so that it contains an excess of tannic acid, the injurious effects are greatly increased—digestion is seriously delayed, the gastric juice partially decomposed, and the mucous membrane of the stomach so altered as to seriously interfere with the absorption of food. Tea is not often adulterated nowadays, the vigilance of the Customs officials being largely responsible for this satisfactory state of affairs. Sometimes exhausted leaves are faced and added to genuine tea, but the practice is very uncommon indeed. Perhaps the most serious evil connected with tea-drinking is the increasing demand for the strongly flavoured teas which are grown on virgin soils without the most careful cultivation. These varieties of teas are usually very rich in organic acids, which may be regarded as the objectionable constituents of the popular beverage; but a very simple test for tannic acid will show the intelligent individual which of two samples of tea contains the less place an equal weight of the teas to be tested into two earthenware teapots, and pour into each an equal volume of boiling water; allow to stand for three minutes, and then pour out into two tall glass jars an equal small quantity of each liquor. To each jar add an equal volume of a solution of ferric chloride (chloride of iron), and dilute with equal quantities of water. The solution which gives the strongest greenish hue contains the largest quantity of tannic acid. [Dr. Goodfellow here demonstrated this simple test.] Another evil connected with tea-drinking is the growing custom to make a cup of tea and a little light cereal food, like biscuits, &c., take the place of a good meal. Provided that plenty of food be taken there can be no objection to a cup of properly prepared tea, but it should not be taken before the meal, as the edge is thus taken off the appetite. In conclusion, the cheering qualities of good tea deservedly place it above all temperance beverages and stimulants; but in the enjoyment of the fragrant cup practise moderation, see that the tea itself is of good quality, and exercise a little common sense in its preparation."—*H. and C. Mail*, Oct. 16.

WYNAAD PLANTERS' ASSOCIATION.

At a recent meeting there were present:—Messrs. Abbott, DeFenblanque, Mackinlay, J. S. Malcolm, J. S. Nicolls, R. K. Walker, H. Waddington, and B. Malcolm, Acting Hon. Secretary. Mr. Walker in the Chair.

The Acting Hon. Secretary read a statement, the substance of which has already appeared in the papers, of the Reception of the Deputation from this Association by H. E. the Governor. The Association recorded with great satisfaction the way in which its Deputation had been received by His Excellency and was especially glad to hear that His Excellency had stated that it it were necessary that the Grant towards the upkeep of the main road should be somewhat supplemented. He did not think there would be any difficulty about the matter.

Read letter from Mr. Sanderson to Secretary U P A. regarding the conditions under which coffee is worked in the Port of London; and the steps taken by a Committee on behalf of the trade, with the resulting improvements for future working of this Product recorded with satisfaction.

Liberian Coffee.—A discussion ensued regarding curing charges on Liberian coffee. It was resolved that the Honory Secretary be instructed to address the coast firms, pointing out that a large acreage of Liberian coffee is now coming into bearing; and that while this Association is fully aware of tho necessity of obtaining special pulpers, it would point out that there will always be some 25 per cent of this crop sent down in dry cherry for treatment on the coast. That this Association views with alarm the large rise in curing charges. It trusts that it is only a temporary measure; and will be glad to learn what steps the firms are taking for the efficient treatment of this coffee.

KOLA-PLANTING.

Within the last two months several important planters from Brazil, Ecuador, and British Guiana have visited London, and made inquiries about the advisability of starting kola-plantations. These planters mainly take up their European headquarters in Paris, and in that City they have made experiments with kola preparations. One of them, a Brazilian, afterwards also made inquiries in Germany and the United States. He was told that London was the centre of the kola trade, and finally went there. Not being able to obtain any information from the wholesale chocolate-makers, he went to Kew, and also to Messrs. Christy & Co., of Lime Street, where he secured half a ton of kola-nuts for seed. Kola, said this Brazilian, was a most economic crop for the planter. Those with whom he had talked about the matter in Europe had mostly asked him to ship the nuts, surrounded by leaves, in straw baskets, exactly as they have been packed in Africa for centuries. Mr. Thos. Christy, when I called upon him the other day, was enthusiastic about this Brazilian, and further told me that he had also had visits recently from an Ecuadorian and a British Guiana planter, both of whom want to start kola-planting.

The planter from Ecuador went to Germany and New York where he learned that there was a large demand for fresh, kola-nuts, that it was an easy, clean article for a planter, and that the tree grew at a low elevation. Then, coming to London, he pursued his investigations and purchased plants from Messrs. Christy & Co. Kola, he said, is sure to be taken up largely by planters, because no preparation, such as the fermenting of cocoa, or the fermenting, husking and drying of coffee, is necessary. It runs no risk of being spoiled on its way to the coast, and there is no doubt that it is a crop that will become as popular in South America as it is in Africa.

The British Guiana planter's experience is almost identical, and shows that there is a movement in favour of the introduction of kola on plantations in various parts of South America.

The great obstacle to the popularising of kola has hitherto been the want of a palatable preparation which might be taken as a breakfast beverage by the million. Mr. Christy assured me that his "neo-kola" fills this gap, and that it is in a great measure due to their conviction that the popularisation of kola on cocoa, tea and coffee lines is imminent that these South American planters are disposed to take up kola-growing—*Chemist and Druggist.*

COFFEE PLANTING IN LAGOS.

The curator of the botanic station gives an account in the *Kew Bulletin* of the progress made with coffee planting in Lagos. He says coffee planting is being energetically extended in West Africa. This part of the world is the home of more than one species yielding commercial coffee. Chief amongst these is the Liberian coffee which thrives at sea level. This has long been grown in the native state of Liberia.

Seeds of Liberian coffee were received at Kew in 1872 from a small plantation on the Secoom River near Accra on the Gold Coast. "The plants raised from these seeds at Kew were the first grown in this country. In 1874 and 1876 larger supplies of seed were obtained direct from Liberia, through the kind agency of Mr. James Irvine, of the firm

of James Irvine & Co., of Liverpool. The plants were distributed from Kew to tropical botanic gardens throughout the Empire." Coffee cultivation is now being carried on under European supervision both at the Gold Coast and at Lagos. In the latter colony the industry has originated in the efforts made in that direction at the botanic station established by the Government at Ebute Metta. The distribution of Liberian coffee and other plants from this station have been as high as 13,960 per quarter, or at the rate of 45,000 per annum. In 1892 (although a nominal price only was charged for the plants, and in some cases many distributed free of charge to native chiefs) the total receipts amounted to more than £91.

In 1894 some Arabian coffee in parchment, grown at the botanic station at an elevation of only 20 ft. above the sea, was valued in London at 94s per cwt. It has been shown, however, that the more permanent sort to grow in the lowlands is the Liberian coffee, and samples of this were recently valued at nearly the same price. The curator, Mr. Millen, remarks in his report for the quarter ending December 31st, 1894: "There is no doubt that coffee has a great future before it on the West Coast. If properly cultivated and prepared it should be able to compete with any coffee-growing country."

In the appendix to the report on the botanic station for the quarter ended September 30th, 1895, the following further particulars are furnished respecting the extension of coffee plantations in the colony of Lagos:—

It will probably be interesting to record the advancement made in coffe plantations in this colony, which have originated through the establishment of this botanic station.

When returning from Abeokuta His Excellency the Acting-Governor gave me permission to visit two plantations situated near the Ado River.

The first one I visited was at Soto, and is owned by the Ilaro Estates and Plantations Company, Limited; it was commenced in 1892, and is under the management of Mr. Punch, a European, who took me round and kindly gave me quarters for the night.

Mr. Punch calculates that he has 150 acres under cultivation, which includes 50,000 plants of coffee liberica. These plants are in different stages of growth; 1,200 plants are three years old, and are producing a fine crop of large bold berries; 5,000 trees are two years old, and are in a healthy and flourishing condition. These also are producing berries, and are doing remarkably well when taking into consideration that a crop is not expected much before three years; 9,000 plants were planted out last year, and 36,000 during the present year.

About 1,000 of coffee arabica are planted out, and these have produced good crops of berries of good size.

Cacao is also being grown; 4,500 plants have been planted out, and their appearance is everything that could be desired for young plants.

I next visited the plantations, the property of A. C. Campbell and Co., situated on the other side of the river, and about one hour distant from the town of Ajilete. I visited this plantation in the early part of 1893, and reported on it. At that time preparations were being made for planting out during the rains. I could see a marked improvement since my first visit, and considerable work had been done.

Mr. Campbell offered me every facility, and was pleased to see me visiting the plantation. He states that he has 160 acres under cultivation, most of these being planted with Liberian coffee, numbering 67,000 plants. They are represented in three stages of growth:— 13,000 were planted out out in 1893, and are in most flourishing condition; the berries are well matured, and of good size. In 1894, 22,000 were planted out and are doing well; while 32,000 have been planted in their permanent place during the present year. The plants are looking very satisfactory for the time of year.

Here, also, are a few plants of Coffee arabica. They have done so well that Mr. Campbell intends to extend the plantation and plants more of this kind.

Nurseries.—About 25,000 plants of Coffea liberica are in beds large enough to transplant.

Vanila (Vanilla planifolia).—These were botanic station, and grown in a shady and cool place on the plantation. Here they have made enormous growth, and have been doing so well that Mr. Campbell anticipates planting out an acre with this valuable plant.

Kola (Cola acuminata).—About 600 of these have been planted under the shade of forest trees.

Cacao.—About 300 plants of cacao have also been planted out, to ascertain their suitability for further cultivation.

The plantation is kept in a clean condition, free from weeds; the soil is rich in vegetable matter; it is pure forest land, and several streams pass through the plantation, which are very useful in watering the nurseries.

The work has progressed considerably since my previous visit, and the work carried out by Mr. Campbell is very creditable indeed. This plantation is worked by forty-five labourers.—*H. & C. Mail*, Oct. 16.

MARKET FOR TEA SHARES.

Thursday Evening, October 15, 1896.

A rather steadier tendency has characterised the market in Tea shares for the past week, and in some cases a notable advance has taken place in the shares, especially of the best known old companies.

Mincing Lane is again easier, both for Indians and also for Ceylons.

FRESH ISSUES.

Consolidated Teas and Lands, all classes of the shares, are rather easier, with sellers rather than buyers at a little below last price.—*H. and C. Mail*, Oct. 16.

SALE OF QUININE AND CINCHONA.

It is a fact which deserves some attention, that in spite of the greatly increased quantities of quinine in the bark offered at auction in Amsterdam, almost the whole of the supplies continue to find buyers. It is true that the prices are very low, but unless the demand for quinine were not only keeping up, but actually advancing, it would be impossible to dispose at any price the enormous quantities that are now being offered. How great and increasing these quantities are may be seen from the following comparison of the bark and quinine offered at the first eight auctions of the last four years held in Amsterdam:—

	Total pkgs. in 8 sales	Total kilos Bark	Total kilos Quinine	Average contents of Bark	Kilos Quinine Sold	Kilos Quinine bought in
1896	48,968	4,528,277	240,309	5·05 to 5·83	262,126	38,183
1895	52,512	4,636.859	225,367	4·63 to 5·17	141,314	84,053
1894	39,951	3.443,031	161,659	4·61 to 5·12	125,727	35,932
1893	46,423	3,930,531	172,982	4·23 to 5·02	97,679	75,303

These increased sales have been made in the face of the fact that it is well known to all buyers that the Java supply is not by any means exhausted.—*Chemist and Druggist*, Oct. 17.

A TEA-DRINKING CEREMONY IN JAPAN.

From an illustrated paper in the September number of the *Far East*, by Mr. Takashima Sieta, Professor of English in the Higher Commercial College, Tokyo, entitled "The Chanoyu Ceremony," we make the following extracts:—

Japan, with her long line of history and traditions, is still a problem in divers things to Western people, especially in some of her characteristic institutions which still remain unfathomed despite the pile of information culled by globe-trotters and other prolific writers whose fanciful pens often depict Japanese affairs in colours altogether unnatural. To these writers caprice seems to sway many things. Japanese in such a way as sometimes to thwart all attempts at analysis. Taste, widely different according to country, age and race, should be thoroughly appreciated ere one can gain an insight into the manners and habits of a nation. To judge Japanese institutions by a Western standard of taste or in a matter-of-fact way may perhaps render them incomprehensible, or even absurd. For example the question may naturally arise of what wisdom and practical benefit are those endless formalities in the making and drinking of tea in the Chanoyu ceremony? Certainly, if judged by a cold utilitarian principle, i.e., if tea drinking means no more than drinking tea, this august ceremony will lose all its significance and charm, but the Chanoyu rightly understood means more than a mere gratification of the palate, and its merits must be considered from an æsthetical and also from an ethical point of view. It is an art in the sense that every movement and action in the performance of the ceremony is rendered in compliance with the laws of grace and refinement, while on the other hand it involves an ethical significance, inasmuch as in ancient times it was looked upon as a means of religious discipline. The man who enters into the true spirit of Chanoyu, free from the detractions necessarily entailed by wordly cares and ambitions, however extravagant it may sound to say it, is fitted, in the language of a priest who made much of this ceremony, "to be better disposed to grasp the truths of the Infinite." As to whether Chanoyu was instituted for merely bringing friends together to enjoy a pleasant time over a cup of tea, or whether it was intended to impart to those who took part in it certain sound practical lessons for the conduct of daily life, our readers must draw their own conclusions.

Except to the initiated, the secrets of the ceremony are a veiled mystery. The profound motives, so eloquently set forth by various Chanoyu men in regard to the ceremony, sound rather far-fetched and improbable. Rikiu, the greatest master in this art that ever lived, referred in one of his poems to the fact that Chanoyu meant no more than to boil water, make tea and drink it *properly*. On one occasion when a man quizzed him on the secrets of Chanoyu, Rikiu replied, "Well, there is no particular secret in the ceremony save in making tea agreeable to the palate, in piling charcoal on the brazier so as to make a good fire for boiling the water, in arranging flowers in a vase in a natural way and in making things appear cool in summer and warm in winter." Somewhat disappointed at the apparently insipid reply the inquirer said, "Woh on earth does not know such a simple explanation as that." Rikiu's happy retort was, "Well if you know it, do it" It sounds paradoxical but is true that "there is no iron law for Chanoyu requiring that such and such forms should be observed, but at the same time, the ceremony should not be performed at random." All the endless round of formalities is, after all, a means to an end. Everything in the ceremony seems strikingly artificial and conventional innumerable laws regulating even every move of the hand and body. There are said to be seventy five manual movements in an ordinary Chanoyu, and over three hundred in the true orthodox ceremony. But the consciousness of being fettered by laws, shows that one has not yet reached a state of proficiency in the art. Freedom and ease are the ultimate end of Chanoyu, so that the slavish adherence to rules in the beginning should finally end in an unconcious observance of them. Hence the manners of Chanoyu master should be graceful and polished, and their taste chaste and refined, not because they strive to be thus, but because of the culture received through the Chanoyu practice. It is as much a violation of the spirit of the ceremony to make much ado about the *catechisms* and secret traditions existing in different schools of Chanoyu as to wrangle about the differences of the tenets of different denominatious ignoring the very spirit of Christianity. Again losing sight of the main motive of Chanoyu, people are often led to believe that, but for the display of wealth and luxury, the ceremony could not be conducted with any degree of success. The simplicity and unobtrusiveness so beautifully exemplified in Rikiu's whole career may be safely taken as its watchwords. Good fellowship and the absence of social barriers characterize all Chanoyu meetings. In feudal times when people were bloodthirsty and bent on warfare, the prevalence of Chanoyu among the military class, strange as it may appear that the *Samurai* of those days took to this graceful ceremony, exercised no mean influence towards cooling the heat of military ardour.

The Chanoyu ceremony had its origin in Buddhism. About seven hundered years ago a priest of Kyoto named Yeisei brought back to this country from China, where he had been on a mission, some tea seeds which he planted for trial on Mt. Seburi in Chikuzen. A good crop of tea rewarded his labour, whereupon he presented some of the choice leaves to a prominent personage of the time, who relished them as a rare tonic for headache. Meikeishonin, another priest of note in those days, is said to have transplanted some of the shrubs to Mt. Togano with a result that far surpassed his expectations. From that time on, tea has gradually become a popular beverage both among the high and the low. The introduction of the Chanoyu ceremony proper was deferred to a later period, i.e., 1267 A.D., when a set of *Daisu*, the ceremonial tea service, was first brought over from China. Of course in those days the ceremony had nothing of the elaborate character which it presents today. It was then a cherished pastime for the priest in his solitary hours in the monastery, but it had not yet commanded the attention of society at large. Some years after, the *Daisu* referred to above fell into the hands of Ashikaga Takauji who lived in the Middle of the fourteenth century, and whose record in history was blotted by his disloyal conduct towards the Emperor in his latter days. Enjoying a short interval of peace, he gave himself up to the pleasures of Chanoyu but soon after the country becoming turbulent, he had to take up arms. Chanoyu shared the vicissitudes of disturbed society for many years, until the final restoration of peace caused its *renaissance*. The golden epoch of the Chanoyu ceremony in the mediæval history of this country, was at the time of Yoshimasa who grasped the reins of power in the middle of the fifteenth century. In 1479, freeing himself from worldly responsibilities, this accomplished general retired to "Ginkakuji," the Silver Storied Temple in Kyoto, in building which no expense was spared. Near the main building he caused to be put up a little apartment where he frequently held Chanoyu meetings with prominent men of the time. Yoshimasa learned Chanoyu under Shuko, a priest of Shomeiji in Kyoto, who for the first time formulated and codified its canons. Under such an impetus the ceremony reached a marvellous degree of popularity In the course of time numerous schools sprang up, but it is universally recognised that Chanoyu as it is practised today was perfected by Rikiu who introduced divers improvements. Being a man of extraordinary talent, rare intrepidity and ready wit, his life as a Chanoyu artist reads like romance. For the marvellous work he achieved in his profession, he surely deserves the esteem and regard lavished upon him by the men of his time as well as by succeeding generations. Serving first under Nobunaga, and subsequently under Taiko, his works speak more eloquently than volumes of panegyrics. Rising above the grave error of the people of his time, who vied with one another in putting up elegant rooms and collecting costly utensils, this great master inaugu-

rated a model style of architecture and gardening, exceedingly simple and modest, but of exquisite taste. To show with what simplicity and economy Chanoyu could be successfully conducted, he planned a room of only two *Jo* size, or of not much over six feet square, and as utensils he brought oven rough looking earthenware pots into service in the ceremony. Oblivious of the true motives of the great master, the people after him prided themselves in securing purposely unshapely looking articles at exorbitant prices!

Of eight different schools of Chanoyu now extant, i.e., the Senke, the Yuraku, the Oribe, the Yabunchi, the Yenshu, tho Sekishu, the Kanamori and the Sohen, tho most popular is the first named, founded by Rikiu. It goes without saying that each school possesses its own secret traditions, imparted only to the initiated, but to point out and explain their differences and characteristic points is out of the question in these limited pages.

Sosho is the highest honorary title given to those of special attainment in this art, but so few have deserved it, that only five names are mentioned in history upon whom have been conferred this covoted name. The five thus honoured were Shuko, Showo, Rikiu, Oribe and Yenshu, the first being the founder of the so-called Chanoyu. the second, the great promoter of the art in the middle of the sixteenth century, while the last three are the founders of their respective schools. Leaving all prejudice, Rikiu was the greatest of them all, and to him may be ascribed the perfection of the ceremony.

During the Tokugawa dynastry, Chanoyu received such attention that it was made a sort of national ceremony and the lord of each province used to support a professional in this art called "*Chobozu*" or "tea priest," probably so named from his clear shaven head, which was a charcteristic of Chanoyu teachers.

* * *

THE UTENSILS REQUIRED FOR THE PERFORMANCE OF THE CHANOYU CEREMONY.

The famous Rikiu once made the apt remark that "it is ridiculous to make so much ado about costly utensils, when all that is required in Chanoyu is only a kettle." Even the very cheapest ware answers the purpose, if one enters into a true enjoyment of the ceremony. Not upon utensils or external environment, but upon the minds of the participants in tho ceremony, depends the success of the ceremony. There is an interesting anecdote illustrating this. It happened over sixty years ago that one day the famous Japanese poet Chikusa Arikoto, in a walk in disguise though a street in Kyoto, came across a little hut by the roadside, with a little patch of ground with two or three trees, thoroughly sprinkled with water and looking very refreshing. He saw inside this humble cottage a man practising Chanoyu all by himself. His curiosity being deeply aroused at the strange employment of the inmate, he entered and accosted the man. He was seated in a little space of not more than six feet by three scrupulously clean, and on the wall was hung a screen with a rare autograph by a famons poet. Arikoto entered into conversation with the man on Chanoyu, who finally asked him if he would become his guest at a Chanoyu meeting early the next morning in the forest near by. This strange invitation was at once accepted. Next morning upon coming to the appointed place, Arikoto found three stools beneath a shady tree. The old recluse in a coarse but clean dress received his distinguished guest most cordially, and went through the tea ceremony in a masterly way, the utensils employed on the occasion being of the humblest description such as may be found any day in the kitchen. As the guest was about to drink the tea offered, he heard overhead the sweet notes of a nightingale much to the delight of his host. It is said that tho next day when a messenger was despatched with a bounteous present to the hermit, he had disappeared no one knew where.

It would not interest readers to enumerate all tho little utensils used in Chanoyu but here we may mention some of the more common and necessary ones to which I shall have occasions to refer in the course of this article.

1. *Kama*, kettle, and *Furo*, a brazier set on the mat.

II. Decorations for a Chanoyu room.—1. Hanging screen—a specimen of writing is preferred to a picture. 2. Flower vase. 3. Double folding screen (to be placed in front of the brazier.) 4. Censer stand. 5. Tobacco fire-box. 6 *Andon*, an old fashioned lamp with a paper shade.

III. Candle sticks and a hanging lamp.

IV. Utensils for ashes and charcoal.—1. Ash shovel. 2. Feather duster. 3. Charcoal basket. 4. Tongs.

V. Tea set.—1. Tea caddy. 2. *Chasen* (beater). 3. Ladle. 4. *Chashaku* (tea scoop). 5. Tea towel (18 in. by 6 in.) 6. Napkin (purple, yellow, brown or red colour). 7. Cup. 8. Incense case.

VI.—1. Water bucket. 2. Water jar. 3. Slop jar.

VII.—Shlf : Square and Round.

THE TEA CEREMONY PROPER.

About a week beforehand invitations should be issued stating the date and hour, together with the names of the guests to be present on the occasion. Those thus honoured should then wait upon the host a day previous to the time of entertainment to return thanks for the invitation received. In Chanoyu meetings a large number of persons are seldom invited at a time, this probably being necessitated, partly by the limited size of the room and partly by a desire of preventing the possibility of confusion which might mar the enjoyment. Usage prescribes the hours for Chanoyu meetings, viz., early dawn, morning, noon, evening, or any time after meals, but in days of yore the custom was to hold such meetings in the early morning, when nature was still in her freshness and the hubbub of the day had not yet set in. The care and anxiety of the host in working up a Chanoyu meeting can be better imagined than described. He has personally to attend to all the minute details. For example, he should first of all see to it that the room and the surroundings bo properly swept and cleaned, that the ladle for the lavatory be changed to a new one, that in winter the garden be carpeted with pine leaves, except on the stepping stones, and that trees as well as the ground be thoroughly sprinkled with water. When snow happens to be on the ground the flakes should not be swept away save on stepping stones. Then again, he should not forget to provide the following articles in the waiting room: cushions, tobacco fire-boxes, braziers (in winter), sandals, umbrellas and clogs (in case of rain), a writing box, bell and a card giving the names of the guests to be invited in the order of their rank His work is not even then ended, for he should keep his eyes open to make sure that the room is properly arranged, set a kettle on the brazier, hang a screen on the *tokonoma* or place of honour and place the charcoal basket incense case and other necessary articles in their proper places. Meanwhile, at the appointed hour the guests will arrive at the waiting room, when the host makes his appearance in the garden and asks them to come in to the Chanoyu room. The guests will then enter the garden, and each kneeling before the *Tsukubaye* or stone cistern, will wash his hands and mouth (this is, however, dispensed with in a morning meeting) and then make his way towards the place of ceremony. Upon gaining the *Nijiruguchi* or crawling-in entrance, which is left half open, the first guest stoops before it and peeps into the room to take in a general survey, then enters or more strictly craws into the room and advances to the front of the *tokonoma* to examine the screen. While doing this the second guest will be peeping into tho apartment following the first, and by the time tho latter approaches the side of tho *Ro* or fire place to inspect the kettle, the former will be before tho *tokonoma*, thus when the first guest takes his seat, tho second will be by the side of the *Ro* and the third in front of the *tokonoma*. The rest of tho guests will go through a similar routine in their turn. The one in tho rear shuts tho door after him with a slight noise which serves as a signal that the guests have all entered the room—the host being mean-

while in another room. The host then makes his appearance and expresses in a few words his cordial welcome to the guests, whereupon the head guest makes some complimentary remarks on the neat appearance of the garden. The host then brings forward a charcoal basket and piles some charcoal on the brazier, and when later he burns incense on the fire, the guests will ask the privilege of looking at the incense case. This being finished, a meal is served. One characteristic point in this feast at the *Chanoyu* meeting is that the host waits on the guests himself. Here we might devote a page or two to the particulars of the meal, not so much as to the menu, which is simple so far as courses are concerned, but to the elaborateness of the table etiquette observed on the occasion; we will, however, hurry on to the tea ceremony proper.

Right in this connection, I must crave the reader's indulgence should the ensuing description be found tediously minute, yet I am disposed to trespass on his patience in order to satisfy his curiosity in regard to the intricasies that are involved in the performance of Chanoyu.

After the repast, the host asks the guests if they would be pleased to retire for *Nakadachi*, or recess, upon which they temporarily withdraw to the waiting room. Meanwhile the host removes the screen from the *tokonoma* and sets a flower vase in it, containing a few sprays of flowers. After this the kettle is filled with water, and more charcoal piled upon the brazier. This being done, the water jar and tea caddy are brought and arranged on the mat as in Figure 1. Everything is now ready; the host steps out into the garden and beats a gong upon which the guests proceed to the room in the same way they did at first. When they are all seated, the host brings forward a cup, a beater, and a scoop, and sitting in front of the water jar he sets them thus. (Figure 2.). Next in order come a slop-bowl, a lid stand and a ladle. The host makes a bow to the guests, then taking up the cup places it before him. Next he takes the tea caddy from its wrappings which are intended to protect it, and re-arranges the utensils as in Figure 3. The host then wipes the tea-caddy and the lid of the water jar with a piece of cloth which he always carries in his belt. Taking the ladle with his right hand and transferring it to the left, he removes the lid of the kettle and dips out hot water and pours it into the cup. The lid is then set on the kettle, and the ladle on the "lid stand." The *Chasen* (beater) is rinsed in the hot water in the cup and set aside while the cup after being emptied is wiped clean. With the right hand the scoop is held and with the left the tea caddy, the cover of which being removed, is placed at the right of the cup. Finally some powdered tea is measured into the cup. Then scooping out hot water from the kettle, the host pours it into the cup end briskly stirs up the tea with the beater. The foaming tea is now ready for the guests. The head guest respectfully holds the cup in his hands and takes a sip whereupon the host will ask if the tea tastes right. An answer having been received, the host put the lid on the kettle and sets the ladle against the slop-jar, while the guests in rotation drink a little and examine the cup after drinking. The host then removes the lid of the kettle and lays it on the lid stand, and then place the ladle across the top of the kettle, and awaits the return of the cup from the last guest. When the cup is returned, he lays it before him, and pours some hot water into it and rinses it. He then announces that he would be pleased to offer them the *usucha* (weak tea). With this remark he pours some water from the water jar into the cup for cleaning the beater, after this he empties the water from the cup and wipes the latter with a "tea cloth." Three scoopfuls of water are now added to the kettle and the ladle is set against the "lid stand." Just at this juncture, the guests ask the privilege of examining the three articles, viz., the tea caddy, its bag and the tea scoop which after being examined are stowed away. After this the guests and the host may enjoy themselves in indulging in informal conversation. The meeting is closed with the offering of *usucha* (weak tea) prepared in a manner similar to that described above.

With slowness, to a degree trying to one's nerve, composure and precision the above ceremony is executed, and it is difficult to analyze the impression of one who for the first time beholds this much-spoken-of ceremony of Japan.

HOW TO DRINK THE TEA AT THE PLACE OF CEREMONY.

On reading the following description of the orthodox way of holding the cup and drinking its contents, it is bewildering to think that one should go through all this trouble for the simple refreshment of a cup of tea. The tea may be served in two different styles, viz., the *koicha* (strong tea) and the *usucha* (weak tea); in one the guests drink each a little from the same cup, while in the other a fresh cup of tea is prepared for each individual. The forms to be observed in each case are somewhat different as regards minor points.

As the host offers a cup of tea (*k icha*), the head guest advances a little and taking hold of the cup he sets it in front of him. Next he takes the napkin offered, and lays it by the side of the cup. Resuming his seat, he bows to the rest of the guests, and then begins to do his part. With the right hand he spreads open the napkin on his left palm, and places the cup on it. Touching a side of the cup with his right hand, he respectfully holds up the cup as far as to his eyes—a sign of reverence. This being done, he takes a sip, and after three and a half sips, he wipes with his index finger the part of the cup which his lips have touched and then wipes his soiled finger with a sheet of paper. The cup is then passed to the second guest who receives it with both hands and drinks his portion in the same manner as his predecessor. After the last guest has drunk the last drop of tea, he sets the cup with napkin on the mat and then admires t.

In case of *usucha* (weak tea), while the host is measuring the powdered tea into the cup, the head guest bowing to the one sitting next to him, takes the cake dish in both hands and sets it before him, (by the way, cake is not served in connection with *koicha*). Then spreading open before him, a sheet of paper, he lays a piece of cake on it. The cake dish will then be passed on to the next guest who helps himself to a cake in the same manner. The one taking the last seat, passes back the dish to the head guest who places it where it was before. When a cup of tea is offered, the guest first eats the cake, then takes up the cup with his right hand and lays it on the left palm. If three draughts and a half he drinks the contents, after which he wipes off the part his lips have touched with his first and third fingers.

In the above I have described the general process of Chanoyu, leaving out many minute points fearing lest my narrative should become blurred in the intricacy of details. For the sake of clearness let me summarize the programme of an ordinary Chanoyu Meeting.

1. Preparations of the host for the meeting.
2. Arrival of the guests at the waiting room.
3. Entrance of the guests in the *roji* i.e. garden.
4. Entrance of the guests to the room.
5. Greeting of the host.
6. Dinner.
7. *Nakadachi* i.e. recess.
8. Second entrance of the guests in the room.
9. The *koicha* ceremony.
10. The *Usucha* ceremony.

—*The Far East* for Sept. TAKASHIMA STETA.

THE AMSTERDAM MARKET.

Our Amsterdam correspondent writes on October 10th:—"The total exports of cinchona-bark from Java were extremely heavy last month. The figures now are as follows (in half-kilos.):—

	1896	1895	1894	1893
September	1,789,000	816,000	1,071,000	500,000
Jan. to Sept.	7,818,000	5,829,700	6,625,000	5,876,000

—*Chemist and Druggist*, Oct. 17.

SIR HARRY JOHNSTON'S REPORT ON BRITISH CENTRAL AFRICA.

Our readers are already familiar with the many features of this report from the extracts taken from the home press. But it may be well to recapitulate and notice its main heads after a systematic fashion, and to refer to a few points connected with planting development that have not hitherto received the attention they deserve. The report opens with an analysis of the census—the main results being 289 Europeans, 263 Indians, 23 half-castes, and 844,420 natives. There seems a very fair distribution of the natives over the planting districts, according to the names of the latter; but no doubt, as in India and Ceylon, the natives are congregated in the lowcountry and villages, and that the European planters are for the first time cultivating on the mountain ranges and establishing labourers on the plantations so formed. Sir H. Johnston next discusses the different native tribes, their condition, location and prospects more particularly with reference to their taking up work on the plantations. The question of Indian settlement is considered: the splendid work done by the Sikhs in dealing with the slave traders is well known. Sir H. Johnston had hoped to introduce Indian cultivators; but so far the funds have not been available. Indian traders and surveyors (largely Tamils) are hard at work; and Sir H. Johnston gives an invitation to the Indians, who are not satisfied with Natal and the Transvaal, to try British Central Africa. The section of "health" has been fully mentioned. There is nothing to show that the risks are greater for planting pioneers than they were in the remoter districts of Ceylon, the Wynaad or Coorg in India, in the "forties," "fifties," and even "sixties." The Shiré Highlands are generally as healthy as our own hill country, although the malaria in the valleys and lowlands ("blackwater fever") is apt to invade clearings at the lower elevations. Here is a paragraph which shows that the first great need of the country is a railway from Quilimane to Blantyre (just as was the want in Ceylon—a railway from Colombo to Kandy in the "fifties," at almost any cost, as the master-mind of Sir Henry Ward clearly saw):—

Undoubtedly the chief risks to health on the part of temperate, well-conducted persons, arise from the journeys to and from the highlands of British Central Africa either up and down the malarial Zambezi Valley, or in the low-lying regions of Lake Nyasa. Places such as Blantyre, Zomba, the Cholo plantations, and the higher Mlanje plantations, and certain settlements in Angoniland, are like series of healthy islands in the middle of an unhealthy sea. Chinde and Quilimane, our principal ports, are by no means very dangerous to the health of those who are residing there. If there were means of quick transit betwixt coast and the islands there would be no more risk about settling in British Central Africa for a term of years than there is about going to Ceylon or to such parts of the interior highlands of Brazil as can be rapidly reached by railway from the coast. What we want here is a railway from Quilimane to Blantyre. When this is effected we shall hear very little more of the unhealthiness of British Central Africa, because persons will be able to accomplish in one day the transit from the coast port to the highlands of the Protectorate without spending days and days on a singularly uncomfortable little steamer in the marshes of the Zambezi and Shiré, where the system becomes soaked with malarial poison.

Sir Harry Johnston unsparingly condemns the increasingly large import and use of whiskey as inimical to health. It is still the day of small things so far as the total import and export trade is concerned. That of imports increased in value from £73,667 in 1894-95 to £82,760 in 1895-6. The total value of exports in the latter year was only £19,668: this includes an increase of £3,200 in coffee on the previous year, while the trade in rubber, oil seeds, beans and wax is increasing; samples of cotton have been approved of; tobacco and tea are being tried on a small scale; while a good deal of attention is to be given to fibres from plants of genus *Sanseviera*, familiar to us in Ceylon. Next to coffee, we think with Sir H. Johnston that indiarubber yielding plants deserve most attention. It is interesting to hear of finds of limestone in many parts; and still more of guano deposits on islands in Lake Nyassa; and of brick-making by the natives.

The postal service and the "general condition of the Protectorate" next claim attention; but there is not much here to detain us; until we come to the consideration of the Labour Question by the Commissioner in the following among other passages:—

The native labour question is almost the most important question which can now claim the attention of those administering the Protectorate Given abundance of cheap native labour, and the financial security of the Protectorate is established. The European comes here with his captial, which he is ready to employ to almost an unlimited extent if he can get in return black men who will, for a wage, work with their hands, as he cannot do himself, in a tropical sun. It only needs a sufficiency of native labour to make this country relatively healthy and amazingly rich. The cultivation of coffee would be a hundred times more extensive than it is if there were an adequate labour supply. In like manner towns would be built, roads would be laid out, railways could be made, marshes could be drained, river channels could be straightened and deepened, and countless crops could be planted and weeded, if sufficient natives came forwad to wield the spade and axe, and pickaxe and hoe. All that needs now to be done is, for the Administration to act as friends of both sides, and introduce the native labourer to the European capitalist. A gentle insistence that the native should contribute his fair share to the revenue of the country by paying his hut tax is all that is necessary on our part to secure his taking that share in life's labour which no human being should evade. At the same time, the Administration is bound to see that the native is fairly treated, that he is fairly paid, and that attention is given to his food and general welfare on the part of his European employer. The system of registering native labourers has worked well, and undoubtedly the intervention of the Administration has secured to the native uniform fairness of treatment which formerly he did not receive when it was left to the will of the employer, whether he was properly paid or cheated out of his earnings under various pretexts. In no part of the world is honesty more obviously the best policy than in Africa in dealing with the negro, who has a very clear sense of justice. The news that such-and-such a man has been unfairly treated by his employer, and has brought back no wages after three months' work, will deter a whole district from furnishing further recruits for the labour market at Blantyre. Fortunately now the native begins to understand that if, his European employer does not treat him fairly, he has redress at the hands of the nearest official.

Native wages are slightly increasing, but are still very low. For unskilled labour, about 3s. a-month with or without food (according to the season of the year) is given, and proportionately less for the work of women and children, who are occassionally employed to weed the plantations. Skilled labour—carpenters, masons, brickmakers, clerks, interpreters, overseers, domestic servants, and cooks—receive wages ranking from 4s. a month to 40*l*. a year.

Some native overseers (originally boys educated at the Missions) are now landowners and planters on their own account. I entertain great hopes of the intellectual development of the negro of central Africa.

Allusion is made to native printers, telegraphists, masons, carpenters, &c.; also to the introduction of cattle, buffaloes and goats from India. Then we are rightly told that "Road-making" comes next to the Labour Question, and mention is made of several roads made, in progress or in contemplation. The more the better for the rapid development of the country. Still more important is the news of the survey party being at work to report on the best railway route between Blantyre and Chirimo at the head of the all-the year round feasible water communication with the rest of the world. It is surprising to note how large a number of steamers of all descriptions are found in the lakes and rivers. Over 100 are specified—from gunboats and passenger steamers to cargo boats—but the total tonnage is not equal to one large ocean-going steamer of the present day. The report concludes with an account of the excellent relations maintained with the German and Portuguese Agent in adjacent territories a fact that reflects the greatest possible credit on Sir Harry Johnston's tact and influence.

But, perhaps the three appendices attached to the report contain information as interesting as any already noticed. The first is on the "Big Game" of the country, a paper principally due to Mr. Sharpe—second in command—and added to by our old acquaintance, Mr. Alex. Whyte. It is of special interest to sportsmen and naturalists. Still more worthy of preservation is the paper in which Sir H. Johnston sums up the history of coffee planting in his state from the day in 1878 when Mr. Duncan, a church of Scotland lay agent, introduced three plants from the Edinburgh Botanical Gardens. The progress in 17 years has been slow as compared with a similar period in Ceylon; but then we speak of 1837 as the beginning of our European enterprise when the export was already 30,000 cwt. The export from British Central Africa this year is exported to reach to 350 tons, or, to take the more universal expression, to 7,000 cwt. But the 100 planters at work are bound to develop the planting and trade rapidly, as the following summary made from the report indicates:—

Names of Proprietors.	Total of Estate.	Planted up to 1896.	Crop 1896.	Employers.
	Acres.	Acres.	Cwt.	Europeans.
Buchanan Bros. ..	—	900	2,000	9
E. C. M. Sharrer ..	365,000	900	600	19
H. B. Bradshaw ..	—	300	400	—
Pettitt Bros. ..	50,000	300	400	5
J. W. Moir ..	—	230	200	3
H. Brown	—	—	200	—
K. Stebleki ..	—	200	240	—
Nyassaland Coffee Co.	—	250(?)	—	2
African Lakes Corporation	—	—	—	—
Zambezi Industrial Mission	—	—	—	—
6 Native Owners ..	—	—	—	—

The map of the Shire Highlands, which accompanies Sir H Johnston's report, shows very clearly the location of all the estates devoted to coffee planting, as also much Crown or State and not yet taken up. This map as well as the paper on Coffee in full, we hope to give in the *Tropical Agriculturist* in an early number. Several of the more extensive proprietors come to the country for sport—to hunt—including Messrs. Pettitt Brothers, Sharrer, &c. The only reference to any coffee enemy is a mention of "green bug" which "shade" and "good manure" remedies; but the Shire Highland planters will have to get the enemy of the "coccus" (along with the Ceylon, India, the Straits, and Java) from Australia in the Queensland "ladybird" insect Finally in a third appendix, Sir H. Johnston gives us an account from his point of view—a generally accurate and fair one—of "Missionray work in British Central Africa"; and this we shall reproduce in instalments in our "Day of Rest" column. Considering the close relations already established between Nyassaland and Ceylon, we cannot know too much about the rapidly advancing country so ably administered by Sir Harry Johnston, who has our best wishes for continued success in his good work.

THE NILGIRI AGRI-HORTICULTURAL SOCIETY.

This Society, says *Planting Opinion* of Oct. 24, now consists of some 54 members, and the General Committee is a strong one, bearing such well-known names in the Agri-Horticultural Madras side world as Messrs. C. Gray, T. Griffiths, Generals Baker and Jennings, Messrs. Minchin, Proudlock and Standen. The first show will be held next May. A capital practical start has been made by circulating the following queries, answers to which by members will be published next month :—

QUERIES.

What flowers can be produced at their best, for the Flower Show in May, from an Ootacamund Garden?

What month should Gladiolus bulbs be taken up and how long should they be kept out of ground ?

What month should Pink and Carnation slips be put down in Ootacamund.

Do Grevillea Plants do best planted late or early, in the monsoon.

It does seem a pity that for some cause or other, perhaps undue modesty, the Madras Agri-Horticultural Society has not a real live journal of its own. It does useful work indeed, but to mofussilites its value is only very partially appreciated.

MARKET FOR TEA SHARES.

Thursday Evening Oct. 22.—In our appended usual table of tea companies it will be observed that we now place all the companies, whether quoted or unquoted stocks, in one strictly alphabetical list, and we trust this will commend itself to our readers as being more easy for reference.

This table now represents, it will be seen, about 6½ millions of share capital, besides more than a quarter of a million of debenture capital.

Notwithstanding the present inherent weakness of the stock markets, all tea shares of repute have been strong, with a somewhat advancing tendency.

Mincing Lane shows some signs of a slight recovery, although prices for the majority of teas remain still rather low.

FRESH ISSUES.

Consolidated Tea and Lands, we now understand are soon to obtain a Stock Exchange special settlement and quotation. There is no business to report in any of the issues.

Empire of India and Ceylon, as notified last week, are shortly to get a quotation,—*H. and C. Mail*, Oct. 23,

THE MOCHA TEA COMPANY.

PROPOSED PURCHASE OF ESTATES.

A special meeting of the Mocha Tea Company was held at the offices of the Company, Prince Street, at noon today, for the purpose of receiving a recommendation from the Directors, as to the proposed purchase of two estates in the Maskeliya district.

Mr. F. W. BOIS presided, and there were also present Mr. W. Moor, Mr. H. G. Bois, and Mr. V. A. Julius; also Mrs. M. E. Bois, Mrs. Hurdwood, Miss W. Bois, and Mr. Henry Bois, as represented by their attorney, Mr. F. W. Bois; and Miss Julius as represented by Mr. V. A. Julius.

The CHAIRMAN, in explaining the objects of the meeting, said, they were called together in consequence of a recommendation from the Directors that the Company should purchase two estates for a sum not exceeding £6,100. The two estates were really to be taken as one. They were brought to the notice of the Company by Mr. J. N. Campbell, who represented the proprietor. Seeing that he was an interested party the Directors thought it best to have the opinion of an independent visiting agent, and consequently they asked Mr. A. C. Bonner to report and value.

This report was then read. It is stated that the two estates could be taken as one. They comprised 200 acres in excellent order. The crop estimated from them was only equal to 275 lb per acre, but with somewhat coarser plucking an additional 75 lb. per acre could be obtained. The average crop for the past four years was equal to 256 lb per acre. The valuation of the estate at nine years purchase was R118,700; and he thought an annual profit of R13,500 might be looked for.

The CHAIRMAN said that taken as a whole the estates did not appear to be in a very fine state. They would notice that Mr. Bonner's valuation was R118,700, but he wished to point out that that included 19 acres which were in dispute. In regard to that he might say that the present owner did not seem to have any proper claim. Therefore they had to make a deduction for this and the valuation became R109,500, and the estimated profits would be about R12,000. He might say that Mr. Campbell thought the estates could be very much improved and worked with a greater return.

It was then proposed by Mr. V. A. JULIUS, seconded by Mr. H. G. BOIS and unanimously agreed to, "that Directors be authorised to purchase the Lanka and Craighill estates in the Maskeliya district for a sum not exceeding £6,100 sterling, and to raise a sum not exceeding R60,000 at 6 per cent. interest to enable them to pay the purchase money.'

It was agreed on the motion of the CHAIRMAN that a special general meeting to confirm this formal resolution be held at noon on Saturday, November 7th.

As the meeting broke up the Chairman said he hoped things would turn out as well as they expected.

THE LATE DR. TRIMEN.

In the death of Dr. H. Trimen, the late Director of the Royal Botanic Gardens, Peradeniya, Ceylon and the scientific world have sustained a heavy loss. Not only did he occupy a place in the forefront of authorities on tropical agriculture, but his devotion to duty amidst the distraction and physical suffering of disease must evoke feelings of admiration for the strength of will and character which surmounted these difficulties, and of pity that death took him ere his life's work was done. In the brief compass of this article it is impossible to indicate all that he was as a scientist and a man. Science was his mistress, but in his case it did not lead him beyond the paths trodden by the generality of mankind; and his sociability and geniality will be a lasting remembrance to a wide circle of devoted friends. On his career, a brilliant one in scientific circles, though to the general public comparatively unknown, we have already touched; but a bald narration compressed into the limits of a paragraph gives but a faint idea of years of conscientious and unremitting work, which has gone to enrich scientific knowledge and have been of immense service in its practical applications. To give our readers an appreciation of Dr. Trimen's life and work, we do not think that we can do better than quote from an article our absent senior wrote on the subject some few months ago:—

"Take Dr. Trimen's latest work: 'THE FLORA OF CEYLON' in three volumes—why, it is impossible to overestimate the value of this work for practical, educational, and scientific purposes in the colony. . . . Dr. Thwaites's great work on Ceylon plants might well be complained of by any 'practical planter' as above his head—being essentially a scientific botanist's book. But Dr. Trimen, while taking care to serve the purposes of science, and to be as full and correct as any reasonable botanist could desire, has added a series of most useful economic notes which simply make his work a treasure-house to the ordinary intelligent readers,—to all in fact who wish to know what can be said about each of our plants (useful and ornamental) and especially about the timber trees and economic products of the island. That the highly accomplished and worthy Director should have persisted in this important undertaking to the sacrifice of his health, if not of all that makes life worth living, speaks highly for his conscientious devotion to duty and deserves the grateful acknowledgement, not only of the Government, but of every right-thinking man in the community. We are equally clear that never before in the history of the island has more attention been given in our Botanic Gardens to every question bearing on the economic as well as scientific side of planting, and tropical agriculture generally, than during the past fifteen years. We speak of that we do know; for, as editor both of daily and monthly issues, we have continuously been made the medium of requests for information, of puzzling questions, of plants forwarded for identification by planters—not to speak of our own many editorial queries—and we have never failed to receive the most prompt and satisfactory attention from Dr. Trimen. . . . We are absolutely clear that no more valuable reports—both from an economic and scientific point of view—reach us from any Botanic or Government Gardens the wide world over, than those that bear the imprint of Peradeniya."

CEYLON TEA SALES IN MELBOUNE.

TEAS.—Locally, on the 1st October, a small catalouge, consisting of 250 packages of Ceylon, was offered at auction, selling up to 8½d. for Pekoe, 6½d. Pekoe fannings, 1s. 2½d. for broken orange Pekoe, 5¾d. for Sonchongs, 12½d. for broken Pekoe and 4¾d. for siftings. Privately, 700 half-chests of Panyongs sold at 4½d., market firm at this price, and 150 quarter-chests of buds. A quiet business doing in Ceylon and Indian; 100 packages of the former sold to 1s. for fine; and 130 chests of the latter to 7¼d.

THE INDIAN RICE CROP OF 1896.

The Statistical Bureau of the Government of India has issued the following First General Memorandum on the Rice Crop in Bengal, Lower Burma, and Madras, of the season 1896 :—

In Bengal the weather was on the whole unfavourable insufficient rain alternating with floods, which resulted in a reduction in the area under cultivation and caused damage to the standing crop over a large area. There was good rain about the middle of September which has slightly improved the prospects of the crop.

The area cropped with winter rice is estimated at 29,597,900 acres against 30,402,500 acres in 1895 and an average of 32,634, 100 acres, the decrease being about 2⅔ and 9⅓ per cent respectively. This year's crop is estimated at about three-fourths of an average crop, but the estimated outturn is likely to be much reduced as there has been littlo or no rain in the first half of October.

The area estimated to have been sown with autumn rice amounts to 7,128,500 acres against an average of 7,438,100 acres and an approximate area of 7,050,100 acres in 1895. The outturn is estimated at 67 per cent in 1896, against 78 per cent in 1895, of an average outturn.

In Madras the area reported to have been sown with rice is 3,385,000 acres which is about the average, but is less by 174,000 acres, on nearly 5 per cent, than the area sown in the corresponding period last year. The decrease in area is due to the unfavourable character of the season. The standing crop is reported to be generally in fair condition, though it needs rain in many parts, especially in the northern districts.

In Burma the area sown up to the end of Sepmtember is reported to be 5,190,912 acres, being an increaso of 100,009 acres over last year's aroa. The increase is due to fallow land being largely brought under cultivation. The area destroyed by floods, &c., is estimated at 83,676 acres, of which 66,352 acres being in the districts of Thongwa and Amherst. The rain up to date has been favourable. The standing crops are reported to be healthy, and the prospects very good.

TEA IN AMERICA.

New York, Sept. 30.

The situation still drags, and is without new feature since our last report. Fine grades of Formosa continue to be well held. On all sorts there is no change to report.

Last week the Montgomery Auction and Commission Company sold 8,671 packages of teas, as follows :— Moyune—24 Hyson, 6 to 6½c ; 549 Young Hyson, 6¾ to 26c ; 177 Imperial, 8 to 20½c ; 356 Gunpowder, 10¼ to 30½c. Pingsuey—21 Young Hyson ; 311 Imperial, 10 to 15c ; 1,783 Gunpowder, 7¼ to 23c. Japan—32 Nibs, 5½ to 11¼c ; 46 Capers, 17c ; 121 Siftings ; 723 Congou, 6¾ to 18c ; 101 India and Orange Pekoe, 12½ to 16½c. Oolong—356 Foochow, 6¼ to 7¼c ; 985 Amoy, 6½ to 8½c ; 2,985 Formosa, 10¾ to 32c.—*American Grocer*, Sept. 30

COFFEE GROWING IN HAWAII.—The *Hawaiian Commercial Journal* of Sept. 15, says : - Last week we referred at some length to the possibilities of this Island as a field for coffee and other industries and also gave an account of the success of Mr. Ahrens of Waianae in coffee growing. At that time we had not visited Mr. Ahrens estate and therefore were obliged to confine ourselves to information received at second hand. However, on Saturday last week we had the pleasure of visiting the Waianae coffee fields with a party of ladies and gentlemen from Honolulu, under the direction of Mr. B. F. Dillingham, manager of the O. R. & L. Co., and can even add to the glowing descriptions of the place we had already received. As a result of the visit of Mr. Dillingham party we understand that one or two new coffee plantations will be started in the neighborhood of Honolulu at once.

THE AVERAGE PRICES OF CEYLON TEAS.

The views of any man experienced in the London market tending to throw light on the late downward course of the prices obtained for our teas cannot fail to be of interest. Expression of these is quoted in our London Letter, and although there may be those who may not fully agree with the opinions expressed, there is reason to think that these are worthy of every consideration. Undoubtedly the steady falling off in the quotation of averages that has been noticeable for some years, has not been satisfactory. But if it can be shown, as is alleged, that this falling off is not attributable to want of appreciation shown by the British public for Ceylon teas, undoubtedly the knowledge will be pleasing to us. The expert who favoured our London correspondent with an interview on his topic was able to cite his own experience as evidencing that, although the averages published by Messrs. Gow Wilson and Stanton and others were undoubtedly correct as applied to the whole volume of sale, they did not represent the conditions attending the sales effected by himself or those of many other estate owners. In his own case, he said, the prices he had obtained showed no reduction on those at which he had sold for quite three years past. Indeed they had even slightly improved during the last year of the three. He thought that an explanation of the reduced *general* average was to be found in the very large quantity of tea coming forward of late from low country estates. He did not consider that this was by any means up to the average of general imports of tea grown on our higher levels, and the prices obtained for them—their bulk being large, caused a reduction in general average, while a particular average would show a steady maintenance of the prices for several years of imports of the higher class. He drew the deduction, he continued, that no evil augury was to be drawn from the present quotation of averages. And the more so, he thought, because, although our low country teas obtained lower prices than those paid for the higher growths, these could be produced much more cheaply than the last, and the growers of both therefore secured equivalent profits. At the same time he admitted that the public quotation of average made, did induce a good deal of apprehension as to the future of the Ceylon tea trade among them not fully instructed on the subject. He would like to see some distinction drawn by the firms making publication between the averages for the two classes of teas. Whether this could be done he declared himself to be ignorant. If it were practicable, he feared that to draw such a distinction must involve such difficulty, and possibly an invidiousness that might be resented by some. We can ourselves see objection to the course this gentleman suggested as desirable. It has not been established, in the first place what should determine the clasification between high-grown and low-grown teas. Some might fix the limit at one thousand feet of elevation, others might deem higher or lower altitude a more fitting line of separation. And as the various London tea firms might adopt independent classifications, their average would in such a case show such an amount of variance as to give results even more misleading than are obtained under the existing system of a general average. And after all it is scarcely the outside public that would be either affected or misled by the present quotations. And those who are " in the

know" can sufficiently discriminate for themselves. Proprietors of estates of low elevation, so long as they are satisfied with their returns, will trouble themselves little about average quotations. Similarly, those whose productions are obtained at higher leads would, we should say, be equally satisfied with good results in their balance sheets, and would feel no alarm at the relative decline of the averages publicly quoted.

NOTES FROM OUR LONDON LETTER.

A good many of us find

MESSRS. GOW, WILSON & STANTONS' WEEKLY REPORT

of the tea market somewhat unpleasant reading, for their quotation of Ceylon tea averages has a persistently downward course. Remarking on this to a gentleman of large interest in Ceylon and of great experience with the London tea market, he observed :—"Your doubts can be well understood, and it seems difficult to account for the droop of quotations. But you must bear in mind that they are of *general* averages only. For myself, and for many other old proprietors in Ceylon, I can only say that we do not experience any reduction in our average. For the last three years mine has remained pretty constant. If anything, my last year's prices were rather better than for the two, preceeding it. But I suspect the decline shown by the brokers' weekly reports to be due to the fact that a lot of lowcountry estates are now coming into full bearing, and that these are sending home a very considerable proportion of the full receipts. Certainly the quality of the teas produced on these is below the standard of my own teas, which, as you know, are grown at a high attitude, and naturally they do not sell for equally high prices as I obtain. But then they are produced far more cheaply than are those grown well up in the hills. I suspect, it is this influx of lower class teas that is accountable for the reduced average of the brokers' publication. So far as the bulk of the tea growers in Ceylon are concerned, I don't believe they have much to grumble at, and I feel sure that the proprietors of the low estates are equally well satisfied with their returns. Sixpence per lb. will pay these last quite as well as ninepence to tenpence will pay me, and certainly I have no reason for complain. Still a good many outsiders who watch the market for investment purposes only may be discouraged by what they see published of these averages. It is to be wished that these were divided for high and low grown teas in the reports, but I don't know if it would be possible to do this. Certainly to do so would entail much extra work, and probably it might be complained that to draw such a distinction publicly would appear invidious. But neither you nor any of your friends need fancy from the reading of these averages that Ceylon tea planting is in a bad way. The enterprise is sound enough, and is paying well all round."

The opportunity of this interview was taken to put a question as to the possible overdoing of

THE TEA COMPANY MANIA.

As to this matter the gentleman interviewed said :—"I quite think this is being overdone, and concur with the suggestion that appeared in the *Observer* that it may seriously affect the position of planting industries in Ceylon should it ever unfortunately happen that the island has to pass through a crisis of the kind from which it has before on more than a single occasion suffered. But I don't think there is any chance of this Company-mongering coming to an end. What I cannot understand, however, is how it comes about that men are so anxious to sell the properties they own. Naturally, of course, they are at present able to get top prices for them, taking advantage of the existing "rush." But then when they get their price what are they to do with the money? It is hopeless to expect they can safely invest it here so as to obtain a return upon it equivalent to the income derived from their tea estates. It seems to me that all they can do is to reinvest in tea in some form or other, and I know of cases where, failing every other eligible investment, this has had to be done. And this investment, mind, must be made on terms equivalent to those which secured the high prices for their estates. So that really there seems to be no logic about the transactions that we daily hear of. But in spite of this men will be tempted by the offers made by company promoters, and the practice will be extend ed until every acre of land cultivated with tea in the island will fall into the possession of limited companies. No cessation of the practice can be hoped for until that area is completely taken up."

THE LATE DR. TRIMEN.

We greatly regretted to read this announcement in the *Times* this week:—"Trimen: on the 16 Oct., at Peradeniya, Ceylon, Henry Trimen, M.B. London, F.R.S., late Director of the Royal Botanical Gardens there, in his 53rd year." We know that Dr. Trimen will be greatly missed among you, as, indeed, he will be here in many social and scientific circles. The following obitnary notice has also appeared in the *Times*:—

Mr. Henry Trimen, F.R.S., F.L.S., the eminent botanist, died at his residence in Ceylon on the 16th inst. He was born in London in 1843, was educated at King's College, and graduated M.B. at the University of London in 1865. For a time he was Curator at the Anatomical Museum of King's College and Lecturer on Botany at St. Mary's Hospital Medical School. Entering the Botanical Department of the British Museum as Senior Assistant in 1869, he held that post for ten years. In 1880, he was appointed Director of the Royal Botanic Gardens, Ceylon, which appointment he only quite recently resigned. Dr. Trimen was editor of the *Journal of Botany*, 1872-79; and he was the author of "Flora of Middlesex" (written in conjunction with Mr. Thiselton Dyer); of the botanical portion of "Medicinal Plants," a work in four volumes published 1875 80; of a Systematic Catalogue of the Plants of Ceylon," 1885; and of a "Handbook to the Flora of Ceylon," 1893. He was likewise the author of numerous papers in the Transaction of various learned and scientific societies. He devoted special attention to the economic aspects of botany, particularly to the sources of drugs and other products, especially of tropical countries. Some years ago he was engaged by the Madras Government to report on the botanical and cultural problems presented by the cinchona plantations in the Nilgiri Hills; and he was the means of introducing into cultivation in Ceylon many useful and valuable products of other countries.

The report of the

SCOTTISH TRUST AND LOAN COMPANY OF CEYLON

has been published for the year ended August 31. It states a profit made of £8,711 net. The directors propose to pay a dividend of 5 per cent per annum, free of income tax, ($2\frac{1}{2}$ per cent of which was paid as an interim dividend this year) and a bonus of $7\frac{1}{2}$ per cent, also free of income tax. There will remain a balance of £3,086 to carry forward to next account.

THE NEW DIMBULA COMPANY has declared a dividend of 16 per cent per annum on the A and B shares, and of 14 per cent per annum on the C shares for the year ended June 30.

WILD RICE.

At the request of Dr. G. Watt, C.I.E., Reporter on Economic Products to the Government of India, the Board of Revenue has asked all Collectors and officers in charge of Settlement Parties in Godavari, Kistna and Malabar, the Deputy Director of Agriculture, the Honorary Secretary, Madras Agri-Horticultural Society; the Superintendent, Government Central Museum; and the Principal of the College of Agriculture to favour the Board with any information they can afford as to the existence or otherwise of the *Oryza Coarctata* in the Madras Presidency. The attention of Dr. Watt was first called as regards this grain by the Director-General of Statistics, Mr. J. E. O'Conor, who asked for the former's opinion as to certain grains sold in Karachi, the exact position of which in the classification in trade returns seemed doubtful. As this appeared to be an entirely new article of human food unknown in the series hitherto examined and reported on by Dr. Watt, he obtained a specimen of the plant from the Collector of Customs, Karachi, and it was found to be a species of *Oryza* (rice) not hitherto known to be eaten, and the botany of which even, until very recently, was involved in the greatest obscurity. The plant obtained by Dr. Watt was determined to be the *Oryza Coarctata* of Roxburgh (wild rice), a remarkably interesting species, originally discovered by Dr. Buchanan Hamilton in 1796, and supposed by him to be confined to the estuary of the Ganges. This plant was subsequently described by Griffith as *Oryza riticoides*, the wild grass, and, according to Roxburgh, the grain was never collected as an article of food. The specimen obtained from Karachi is known in the bazaars as *Nanoi*, and is stated to occur in the valley of Indus in the Karachi Collectorate of Sind, and is collected in the months of July and August. The grass (*Suhangah*) producing the grain grows among other kinds of grass on the marshy grounds on the banks of the Indus which are constantly washed by sweet and salt water at ebb and flow tides, respectively. It is gathered by the poorer classes for their own consumption, but is sometimes exchanged for equivalent value in one and other articles offered by petty traders going round the creeks; and two or three maunds of it are thus brought every season to Keti-Bander and a small quantity exported to Karachi. The Collector of Customs, Karachi, states that a noticeable feature about the gathering of the grass is the vast amount of labour and trouble involved, as it is estimated that a man engaged the whole day cannot collect more than four seers. The plant is described as 4 to 6 feet in height, the upright stems rising from a stout creeping rhizome. The grains do not spread out on ripening, but are closely compressed into a long erect spike. Dr. Watt now asks for any information as to the existence of this plant in any other localities besides the estuaries of the Ganges and the Indus, as it would go a long way to confirm its being regarded as truly indigenous. He remarks that the obscurity in which the history of most of India's cultivated plants is involved, is intimately associated with the rise and diversity of the human family. He says that this curious rice is not at all unlike *Triticum* (wheat), and the resemblance accordingly at once suggests the possibility of its having been the wild grain seen by Aristobulus on the banks of the Indus which he spoke of as being very similar to wheat; so that if that suggestion be correct, we have an interval of 2,000 years between the two recorded observations of the existence of this edible grain. The enquiry, therefore, has a wide significance, and will richly repay whatever attention may be spared to it. Dr. Watt adds that Mr. J. F. Duthie has collected *Oryza Coarctata* at Shikarpur about 200 feet above the level of tidal influence; and this fact suggests the question whether it is cultivated in that locality or whether the presence of salt in the soil allows of its existence in regions now remote from the direct influence of the sea. If that be so, then enquiry is not to be confined to the actual estuaries of the great rivers such as the Nerbudda, Tapti, Coleroom Palar, Kistna, Godavari, Mahanadi, &c., but may be extended to all salt-impregnated soils and margins of brine lakes and marshes.—*Madras Times*, Oct. 29.

PLANTING NOTES FROM HAPUTALE.

THE WEATHER. Nov. 2.

Sunny mornings and rainy afternoons, and evenings also, are our present experiences. A whole month has passed away, and we have had only two days, in which rain did not fall in this district, and at times we have been under heavy downpours. During the whole of last month we have had hardly a puff of wind, either from the south-west or north-east. It has been a great calm with us, such as you get in the Norse latitudesd—rizzling rain and an entire absence of wind. The mountains of Ceylon supply the lowlying rivers of Ceylon with abundant water, and these mighty rivers when fully replenished serve to irrigate extensive areas of lowlying paddy lands. These abundant rains falling on our hills are not lost: they are most precious, for they give the Sinhalese goyiya his daily bread, and without the mountain zone, Ceylon would be poor indeed.

LAND FOR PLANTING.

Some weeks ago, in a letter which appeared in the *Observer*, Sir G. E. stated that tea estates at a medium elevation in Ceylon do not yield high quality teas, nor can they compete with the low estate hardly above sea-level. This may be the case, but take courage ye owners of medium-lying tea estates: your properties may be nigh a railway and have a good cart road to them, and manures can be cheaply applied to the tea bushes, and the crops of your totums greatly augmented. I read in *Observer* that there are no high-lying forestlands left for sale in our mountain zone. Lots of virgin forest around Trincomalee and in other places are available; but the question seems to me to be just this: Do you wish to grow more tea in Ceylon of an inferior grade or not?

LONDON COMPANIES.

The year about to close is memorable in planting annals. The resident proprietors of tea estates of Ceylon will soon have left us. Companies—large London Tea Companies—have already absorbed most of the tea totums of our island; and these London Tea Companies will henceforth be the real rulers of the tea enterprise of Ceylon. What will they do with it, or for it? Will they look favourably on the Planters' Associations in Ceylon, Parent and District Associations, or try to administer their legitimate influence in this island? Will they support the Volunteer enterprise among

the planters? Well, this I know full well—that planters who are Volunteers will have to go through their martial exercises within a few miles of their totums, and not expect to go to Camp meetings in remote regions far away from their estates.

YOUNG PLANTS.

Looking over your report from the Conservator of Forests in Ceylon, I could not help being surprised to find that so many young tree plants had died soon after planting. Surely our Foresters may learn from *past* experience first to plant only sturdy plants; and secondly to closely see to the planting of these plants *themselves*, and to choose suitable soil for the various kinds of trees they wish to propagate.

PLANTING AND PRODUCE.

Indian Tea Companies in the United Kingdom.—We publish elsewhere a list for the compilation of which we are indebted to Mr. Georgo Seton, of the Joint Stock Indian Tea Companies with headquarters within the United Kingdom. The acreage of the properties owned by the various companies, the district, and the capital are given together with the official address, and the names of the directors brought up to date.

Pianos and Packet Tea.—The grocers of Birmingham are sore about an extension of the "present" system in connection with the tea trade in the Midland capital. A retail tea company is offering pianos to those of its customers who purchase a certain quantity of its tea. The idea is to send in a certain number of bags denoting the purchase of the tea, and this system is denounced by the trade as a "growing evil." It has grown to such dimensions that we may look for a gift of a cottage or of a landed estate in time.

How About Portugal.—Should the planters of India and Ceylon desire to push their teas in Portugal the exhibition to be held in Lisbon next year will give them the opportunity. The London Chamber of Commerce recently held a meeting in support of the project which is called the Vasco da Gama and Indian Celebration Exhibition. Sir A. Rollit, M.P., President of the Chamber, was in the chair at the meeting, and letters were read approving the proposal and promising their assistance from the Lord Mayor, the Governor of the Bank of England, Sir Clements Markham, C.B. (President of the Royal Geographical Society), Lord G. Hamilton, M.P. (Secretary of State for India), Sir George Birdwood, and others. The association of the celebration with India, it was pointed out, made it a matter of interest to Britain. A committee was formed to assist the movement, and it was also resolved to request the co-operation of the Foreign and Colonial Department, the Trinity House and other public bodies.

Brazil and Its Coffee Industry.

The financial position of Brazil and the effect on its merchants and planters of the enormous fall in the Brazilian exchange is the subject of much comment in trading circles. Brazil, it is said, has enjoyed for a number of years past a considerable amount of prosperity, owing to the high prices obtained for her coffee and rubber. This, however, means mainly prosperity for the planters and high prices in terms of the paper currency. As the exchange has declined the paper price have risen, and as wages and other costs of production and fixed charges have been paid in paper the producers are said to have been making profits at the rate of 100 to 200 per cent. Of course the continual decline in the exchange must have been proportionately distressing to importers and to the Government and all individuals and companies having gold debts abroad to meet. It may also, under the circumstances, be assumed to have induced a considerable rise in the cost of living, as many other prices, and particularly the prices of imports, have probably advanced in Brazilian currency to some extent, though not equally with the prices of coffee and rubber. But the upward movement meanwhile seems to have had a remarkable influence in stimulating production in Brazil. During the current season there has been gathered, it is said, the most phenomenally large coffee crop ever grown. Instead of a crop of 5,000,000 to 6,000,000 bags, a yield of from 8,000,000 to 9,000,000 bags is reported. Recent advices from Rio de Janeiro and Santos have indicated that those markets were becoming glutted, and, naturally, prices have fallen. According to some American authorities the prices of coffee still mean a profit (in paper) of 100 per cent. to the planter, as against a profit of 200 per cent. last year. As, however, there appears to be a disposition in New York to utilise the position in Brazil with its depreciated currency as an object lesson against the free coinage of silver, it seems not improbable that this statement is an exaggeration. It is difficult to believe that the expenses of the planters expressed in paper have not risen to some extent with the depreciation of the paper. Any way, dealers and merchants are said to be talking very alarmingly of the decline, and to be doing their utmost to arrest it by sending out adverse reports with regard to the next, or growing coffee crop, with the object of inducing the consuming markets to buy the crop now in hand; and they are attributing the failures reported to the reduced price of coffee.

Rubber Production in Brazil.—The production of rubber has been greatly increased with the constant advance in its paper price. Twenty years ago the Brazilians asserted that they could not produce more than 8,000 tons per annum without killing off the trees, whereas at present they are said to be producing at the rate of 20,000 to 21,000 tons annually. Judging superficially, the case of Brazil seems to offer another striking illustration of the influence of a depreciating currency in artificially stimulating production in particular directions, and of the financial and commercial disorganisation which must eventually result.

Vanilla in the West Indies.—Planters in the West Indies are on the look out for new sources of income, and some of them are growing vanilla. A sample of vanilla, grown and cured at the Botanic Gardens, Trinidad, was lately received (says the *Kew Bulletin*) from Mr. J. H. Hart, F.L.S., the superintendent. The pods were produced by plants originally supplied from Kew of what is known as the "Sion House variety" of *Vanilla planifolia*, Andr. In the present instance the quality is not so good as might be desired; but now the right sort is established in the island it might be worth while to carry on further experiments with the view of improving the quality of the produce.—*H. & C. Mail*, Oct. 23.

Curing of Vanilla—Preparation of Papain.—The *Chemist and Druggist* of Sept. 26, has the following replies to a correspondent:—

E.P. (Fiji).—(1) Curing of Vanilla.—After the pods are plucked they are dipped in boiling water. Next they are packed in hardwood cases, 6 feet long, 4 feet wide, and 2 feet deep. A blanket is first put in the box, then the beans to about the depth of a foot, and a double thickness of blanket on the top of them. The box is then covered with glass, and placed in the sun for a fortnight, during which time the beans ferment, or sweat. Only experience can tell when that process is complete, and the beans are ready for the dry shed. This should be an airy shed, well protected from rain, and not too much exposed to the sun. It should have a series of wire shelves all round it and on the top shelf the beans are placed in single layer, not too crowded. They are turned over every day or second day, and in the course of ten days removed to the second shelf, then to the third, where they remain until they are quite dry and fit for packing. (2) All that we can tell you about the manufacture of Papain is that the juice is pressed out of the fruit, clarified by filtration through a twill bag, and the ferment precipitated by alcohol. It is then dried, but sometimes purified by treatment with water. The supply of papain is more than equal to the demand, and we do not think it would pay you to manufacture it, although it seems probable that it should be more plentifully used by Indian natives, whose caste prejudice prohibits them from using pepsin.

MOCHA TEA COMPANY OF CEYLON LIMITED.

A special general meeting of the shareholders of the Mocha Tea Company of Ceylon, Ld., was held at noon today in the office of the Agents and Secretaries, Messrs. J. M. Robertson & Co. The meeting, presided over by Mr. F. W. Bois, formally confirmed the following resolution passed at a general meeting on 17th October:—"That the Directors be authorised to purchase the Lanka and Craighill estates in the Maskeliya district for a sum not exceeding £6,100 sterling, and to raise a sum not exceeding R60,000 at 6 per cent interest to enable them to pay the purchase money if the purchase be completed."

COFFEE PLANTING ON HAWAII.

A PROMISING NEW INDUSTRY IN THE HAWAIIAN ISLANDS SOME FIGURES RELATING TO THE COST OF COFFEE CULTURE—WHERE VEGETABLES MAY BE PLANTED EVERY MONTH IN THE YEAR.

The Island of Hawaii, the largest of the Hawaiian Islands, is situated about two hundred miles from the city of Honolulu. Regular lines of steamers connect this island with the city The only town of importance on Hawaii is Hilo, on the east side of the island, and from whence a finely macadamized road, through the cane-fields and a most luxuriant tropical forest, leads to tho celebrated volcano of Kilanea, distant thirty-one miles.

Until within a few years sugar has been the staple product of this island. Now, however, Coffee planting is drawing the attention of small farmers. On both the leeward as well as the windward side of the great mountains Kea and Loa, lays a large tract of land unsuitable for cane growing and which has been found to be eminently suitable for the production of Coffee, ranging from the sea coast up to an elevation of three thousand feet.

Quite a large number of plantations have been started during the last four years and will soon be coming into bearing. The Coffee raised on this island in years past has taken a very high rank, even thought by many to be equal to the best Java or Mocha.

Land or settlement can be had from the Government, and also from private land owners, at prices ranging from $20 to $25·00 per acre. The best Coffee lands are, for the most part, covered with a forest growth and require clearing. The land can be cleared, by contract, at prices ranging from $20 to $50 per acre.

After the land is cleared and the young trees planted, either from those owning nurseries, or from the nurseries planted by the owner, but little care is necessary except to keep the weeds down, until after the third year, at which time a small crop can be expected, when careful pruning and "handling" is necessary to bring the trees to perfection.

From 750 to 1,200 Coffee trees are set on an acre and will be in full bearing the sixth year after planting, smaller crops being taken the fourth and fifth years. The crop on a good tree should be about three pounds.

The necessary machinery for pulping and hulling costs from $150 to $1,500 according to the size. Buildings for the drying and storing are not expensive. The greatest cost in the coffee business is that incurred in picking the ripe berry, which, as the Coffee does not ripen all at once, is rather slow. The berries take from five to seven months to mature.

On the higher lands the small farmer can raise corn and potatoes, as well as all garden vegetables, —enough to supply his family. Planting of these can be done *every* month in the year, thus giving him a constant succession of crops the year around, while meantime his Coffee is growing and coming into bearing.

A farmer coming here to live should have at least $3,000 to carry him through. Land can be leased from the Government, with the privilege of purchase, on very reasonable terms. No tax is levied for the next six years on Coffee plantations.

Space in this magazine will not allow to go into all the details of Coffee planting, etc., but the writer of this article will be glad to answer all questions, to any thinking of emigrating here.—D. H. HITCHCOCK, Hilo, Hawaii, Hawaiian Islands.—*Mayflower*, Oct.

TEA IN MELBOURNE.

Ceylon are in favour, and sales made of 200 chests at 7d to 1s 4d, 100 half chests of Panyongs, and 400 chests of Indian. At the auctions on the 15th October, 2,849 packages of Indian were offered, of which 1,920 packages sold up to the following prices: —For Dooars pekoe S., 6¼d; do. pekoe, 6¾d; do. orange P., 7½d; Darjeeling orange P., 1s 1d; do. pekoe, 10¼d: do. pekoe S., 6d, golden orange pekoe, 1s 6d; Assam pekoe, 11¼d; do. orange P., 9d; do. pekoe S., 7½d; Cachar pekoe, 7¼d; do. orange P., 7½d; do. pekoe S, 7¼d; do. souchong, 6½d; Terai pekoe, 7d; do. orange P., 7¾d; do. pekoe S., 6¼d. Also 68 packages of machine-made China realised the following prices; —For broken leaf, 4½d; pekoe S., 5d; pekoe, 7½d; orange pekoe, 11d. Tho biddings were fairly brisk, and the bulk of the catalogues sold.—*Leader*.

CEYLON LIMITED COMPAINES—THEIR RESERVE FUNDS—AND SOME COLOMBO QUOTATIONS.

A Ceylon proprietor now at home favours us by the present mail with some criticism which we think it well to lay before those concerned and our readers generally. In the first place—looking over the list issued by the Colombo Share Brokers' Association as published in the *Overland Ceylon Observer*—he finds that the London-Ceylon Companies quoted are frequently given very considerably below their proper market standing. We are not quite clear as to whether our friend has compared the Colombo and London quotations for precisely the same date, but presume he must have done so. In any case it can do no harm to reproduce what he says on the subject. He writes:—"Ouvahs are quoted £11½. Now no Ouvah Coffee Company's shares have been so low as £11 10s for ever so long. I know some were sold in September—the very last lot in the market—at £12 5s. Again, Nuwara Eliyas are quoted with you in Colombo at £12⅝ ex-dividend. I am told it is very difficult to get them at £13 now."

Then as to "Reserve Funds," our critic considers that Ceylon Companies—or rather their Directors—are, as a rule, to blame for not affording clear and full information to their shareholders as to the placing or investmentof any and all Reserve Funds. Our correspondent maintains this should be distinctly shown in the Directors' Reports sent out before the annual meetings, so that any shareholder dissatisfied with the securities indicated, might object. He goes on to say: "There ought to be no hole-and-corner work in any public Company's affairs: see the disturbance on just now about the 'British Farmers' Association, Limited,' as indicated in the *Financial Times* of the 20th-21st October. It is far better that the Directors should act fairly and squarely with the shareholders."

On the general principle, we heartily endorse the views of our critic; but if the attempt is made to apply the censure to any of our Ceylon Companies, we scarcely think the case will hold

good to any important extent. In the first place so few of our Plantation Companies as yet have any considerable reserve funds. They are mostly very young, and, though prosperous, have only begun to think about "reserves." But in the case of the leading as of the oldest of our Tea Companies, we are under the impression that the shareholders have had very full and satisfactory information as to the investment of a considerable reserve, namely in coconut plantation to a certain amount and the balance in Government securities. If this information is not given in the latest Annual Report, we feel sure it was supplied at the meeting in the speech of the Managing Director. Indeed, is this not the usual way of supplying information in reference to reserve funds or securities, or, when not done, questions can always be asked by shareholders at the meeting. Further, are we wrong in supposing that where no special investment is mentioned, it may be taken for granted that any reserve funds are, as a rule, invested in Government, Indian or Colonial first-class securities? Be this as it may, however, now that the time has come when we hope "reserves" will become the rule with all well-regulated Ceylon Tea Plantation Companies, we think our friend's criticism or suggestions may well be taken to heart and the practice be adopted by Directors of taking their shareholders fully into their confidence, as to the use made of the profits placed in reserve—as a guarantee for the maintenance of prosperity. It is certainly indispensable, that such "guarantee" should, in its investment, be, like Cæsar's wife, above suspicion, and there is nothing like publicity to secure this end.

LIFE IN GUATEMALA.

THE COFFEE PLANTATIONS: PEON LABOUR: THE MODERN SYSTEM OF CULTURE.

The fact that a co-operative colony, to be composed of young Californians, has been proposed to be started in Guatemala—the most northern of the Central American republics—has directed attention to the existence and social conditions of the colony.

Guatemala is not a bad land to live in, especially in the elevated region devoted to the culture of the coffee plant. But the truth of the matter is that while the climate of the region is delightful and by no means insalubrious there are drawbacks (says a Californian paper) which, from an American point of view, are serious obstacles.

No one who has travelled in any part of Spanish America from Mexico to Patagonia can have failed to recognise and record one bitter fact. The man who goes into any Spanish-American state to till the soil or to labor with his hands has no social future. He is, to all intents and purposes, a peon, a laborer.

The Spanish traditions have not been rooted in the institutions of Central America for nothing. There was a time when the Archbishop of Guatemala was primate of all North America. There are families in Guatemala who can trace back their pedigree for a clear 300 years, and though Guatemala is nominally a republic the American citizen who takes his capital into the country and toils with his hands to amass a competence will find the doors of Guatemala society hopelessly shut against him.

The politician proper reaches his highest development in lands where wealth and aristocratic traditions go hand in hand. In the higher circles of society in Guatemala, Nicaragua, Salvador, Honduras, and Colombia nearly every brainy man is a professional politician.

"The land of Manana" (pronounced Man-yan-na) is a country in which nothing is hurried. Everything can be put off till to-morrow. It takes time to think, and nothing is so repugnant to Spanish American traditions as the feverish haste of the New Englander or the business energy of the Western man.

It is a characteristic of all the representative men of Central America that they absolutely refuse to be hurried. They never jump at a bargain, and their business transactions are marked by a provoking coolness of deliberation strangely at variance with their warmth and energy in the secluded circle of social life.

A word about the coffee plantations of Guatemala may be in order after this introduction.

These plantations lie on the Pacific slope of the country, at a distance from the coast varying from 40 to 100 miles, and at an elevation ranging from 4,000 to 5,000 feet.

There is very little railroad communication and transportation is mostly conducted by the most primitive means.

The present coffee-planters of Guatemala are of all nationalities—English, Americans, Germans, and Spanish-Americans. Many of the old coffee-planters began life in much the same way as the scheme proposed by the would-be colonists. They lived in adobe dwellings and toiled hard to drill the refractory peons into the work of clearing the plantations. The successful coffee-planter of today toils hard, not as a labourer, but as an overseer. For a man to put his hand to the plough would have the same social effect in Guatemala as in the Southern States during the era of slavery.

The modern system of coffee culture in Guatemala, and especially the introduction of machinery, and the gradual enlargement of the coffee area, have devolved upon the planters the necessity of supplying suitable houses for their laborers in place of the old thatched shanties or adobe huts in which these miserable creatures existed. The lumber for these buildings is all imported from San Francisco, and the wooden dwelling of the planters are constructed on a larger scale of the same material. Lumber is an expensive material in Guatemala, and hence a heavy drain is made on capital at the start.

There is no such thing as a coffee trust in Guatemala. Every man runs his own coffee ranch as he pleases. When he wants money he borrows it on the security of his next coffee crop from the agents of bankers in Europe, San Francisco, and New York.

Life on a coffee ranch is not unhealthy, but no white man could perform the work which the peons accomplish in clearing a plantation. The first clearing is a herculean task, and after that the rapid and prodigal growth of weeds and rank vegetation in a tropical climate requires that the work of clearing shall be kept up incessantly. It is the hardest kind of work under the most favorable conditions. There is no cleared land available at the present time, for one reason that it would require so heavy an outlay of capital to accomplish the task, and a coffee plantation left alone for one single month will be so overgrown as to require as thorough a clearing as the original one.

The coffee plant is about five months in development up to the ripening of the berry, but it is five years before the plantation begins to pay.

A certain number of acres of land are cleared by contract labour at about 30c. a day in American money, though the planters keep the figure a secret. After the ground is thoroughly cleared and the coffee planted it will not be till the third year that there is any return at all. In the third year there is a slight return, just enough to pay for the cleaning of the coffee-bean. In the fourth year the crop about pays for sacking and getting it to the port of shipment.

From the fifth year onward, if the seasons are good, there are sustantial profits, provided labour is obtainable at a cheap rate; for on coffee plantations cheap labour is everything, and the peons can be very refractory at times. Nature is so prodigal in providing fruits for food and so little is required in the way of clothing or shelter that if a peon

chooses to say he will work "manana" tomorrow he is subject to no inconvenience by the delay, whatever his employer may suffer. In the land of manana there is a tomorrow for the peon as for the proudest Castilian. It is this spirit of procrastination which has driven the most irrepressible American settlers to despair. In the course of time they begin te manana themselves.

The women and children of the peons find employment during the coffee-picking season at a mere pittance of course, but a peon can exist on wages which a sand, shoveler would spurn if starvation started him in the face. The male peons are liable to military service, an element which has to be taken into serious consideration, for Guatemala, like the other Central American republics or the great powers of Europe, is armed to the teeth all the time and her soil is liable to invasion and pillage at any hour.

White men going to Guatemala to settle will soon find that there are three climates. On the coast it is blazing hot; in the higher altitudes, on which the plantations are situated, it is a little warm, but not uncomfortably so; in the highest elevations the climate is an eternal spring.

All kinds of provisions are very dear and tobacco is worthy 1 dol per pound. In Guatemala City wines are cheaply obtainable at the hotels, but bottled beer is worth about 80c or 1 dol a bottle. Hotel accommodations are quite high.

Perhaps the most discouraging feature to be settled is the want of transportation facilities; the long distance from the plantations to the towns (often 40 miles or more) and the difficulty of obtaining social recognition. Once this recognition is obtained life is pleasant enough, and there are many dark-eyed damsels of old Castilian stock in Guatemala City whose glances are apt to soften the pangs of exile.

The early coffee crop is ready for picking by December, and the season lasts till May. The plantations near the line of railroad running to the coast at San Jose of course use the railroad, but elsewhere the transportation to Ocos and Champerico is by ox teams and other primitive means. The old-fashioned bongos or boats in which the coffee-bags were shoved off on the beach, amid a tremendous surf, are now replaced by lighters pushed off from long iron piers.

The steamers do not come up to the piers for the reason that the heavy rollers would soon toss them ashore, and the lighters are toward out a mile or more to the steamer's side.

In no way can the extreme conservatism of Guatemala and other Central American republics be better shown than in the rude contrivance by which passengers are swung into the lighters and then into the gangway of the steamers. The traveller who has once gone through the ordeal seldom cares to repeat the experience, save on the direst necessity.—*Torres Straits Pilot*, Oct. 3.

NOTES FROM HOME.

LONDON, Oct. 23.

Mr. Wm. Mackenzie, the Ceylon Tea Commissioner, was ready to start once more for America this week; but a difficulty about passage will delay him some days. He deserves credit for facing transit across the Atlantic and back in the cold season; but he is in splendid health, and reports that encouragement is found in certain firms taking up the work of advertising

CEYLON TEA IN AMERICA

on their account. One London firm with branches in the States is doing a good deal, while Messrs. Larkin & Co. of Toronto, who have so often written to the *Observer* on the subject, deserve great credit from the Ceylon planters for their enterprise since they advertise in some 340 Canadian papers. Mr. Mackenzie has induced them to make a beginning across the border in the States, and their venture in Buffalo—a city of 400,000 people—is reported to be eminently satisfactory, so that we may expect a further extension. Several of the Commissioner's lady lecturers on Ceylon tea have been taken on by firms now interested in the trade—a good sign. At the same time, we are not to expect any very large figures by way of increase of exports to America in 1896: indeed there is a rumour that the published return for 1895 may have to be amended through some exports from Calcutta *via* London to America having been counted twice, owing to want of clearness at the Customs. It seems that the American Customs statistics do not help in respect of the countries from which different kinds of tea are imported.

Considerable activity over

TEA COMPANY SHARES

prevails in the City, and there is no lack of confidence in Ceylon plantations. Apart from recent purchases and developments, the formation of another new Company, dealing with estates at a comparatively high elevation, is reported; while a merchant recently from your midst (Mr. W. H. Figg) is credited with an

AMALGAMATION AND CONSOLIDATION SCHEME

which is sure to be very popular at this end, although the outside public are not likely to be appealed to. The Companies to be amalgamated are some of the very prosperous ones in the Kelani district, among the earliest formed and for which Messrs. Whittall & Co. Colombo, are Agents; and at the same time the capital is likely to be changed into sterling. No doubt a popular as well as powerful Company will, in this way, be formed.

It is satisfactory to see the

SCOTTISH TRUST AND LAND CO. OF CEYLON

—after suffering in the coffee days—coming rapidly to the front with its tea, although other products are not ignored: debt and debentures are being cleared off and the lucky shareholders divide 12½ per cent for the year free of income tax. The veteran Chairman,

MR. THOS. DICKSON, SR.,

may well be proud of his steering of this Corporation through the dark times of depression into the present course of prosperity.

THE BRAZILIAN-DUMONT COFFEE COMPANY

—to judge by the market quotations for debentures and shares—is not over-popular in London at present, perhaps, owing to the late financial trouble in Rio; but full confidence is expressed in its being a sound and profitable enterprise for the shareholders, and the following testimony appears in a paragraph in the *Financial Times* this week:—

Dumont Coffee Estate—The sale of the Dumont Coffee Estate to an English Company has caused the *Journal do Commercio* of Rio de Janiero, to express its regret that so fine a property should be allowed to pass out of Brazilian hands. The *Rio News* while sharing the opinion of the "Journal" as to the value of the estate, which is, it says, "one of the most valuable in Brazil," is glad to see so large an introduction of foreign capital into the country, believing that with more foreign property owners steadier progress will be made.

The

COSTA RICA COFFEE VENTURE

—on which Mr. J. L. Shand reported—is not yet floated, some more capital being considered necessary, though a considerable amount has been subscribed. The increased tightness of the money market may be telling against such

fresh appeals; but an easier time is anticipated after the American Presidential Election is settled. Speaking of the

SARAPIQUI (COSTA RICA) COFFEE SYNDICATE,

it was of interest to me to find in the Secretary the son of a gentleman whose name was very familiar in Ceylon forty years ago as Agents for the Ceylon Railway Company, formed to connect Colombo and Kandy. Mr. Beeston left Ceylon before my time; but his name frequently appeared in print in connection with the winding-up of the company. His son is a nephew of the late Mr. George Steuart of the well-known Colombo House, and his sister—shortly to be married—inherits largely under the will and is interested in Colombo property, so that a visit to Ceylon may be included this winter in the honeymoon trip her husband and herself.

PALLAKELLE ESTATE,

Dumbara, has at length been sold for £38,000, a moderate price seemingly for the large area of the property and the big extent in cultivation; but then cacao there has had a trying time, and tea and coconuts have to be proved, though there is no need to suppose that the purchasers have not made a good bargain, likely to give them large profits from the growth of a variety of products.

With much regret—with little surprise—did I notice the death of

DR. TRIMEN

(at the age of 53) in the London papers the other day. He was so weak and ill when he left London that I doubted his ever returning. Nothing but a determination to finish his book could have carried him out to Peradeniya. I trust he was able to feel that he had accomplished the truly useful mission, on which he had set his heart, and that the third volume of the "Flora of Ceylon" can duly appear with the finishing touches of the author.

I have seen a good deal lately of a relative who has been through the "siege of Buluwayo" and the recent exciting times—not yet quite over—in Mashonaland. He like all other South African Colonists I have seen, looks on Cecil Rhodes as the ablest and most progressive man amongst them and the only one to restore prosperity to the country. With prolonged experience of the Transvaal and Natal, he tells me there is a good field for

CEYLON TEA IN SOUTH AFRICA

although the locally grown tea is in favour so far as it goes. But he is enthusiastic over what the Messrs. MacLure (relatives of well-known Maskeliya coffee and tea planter) have already done in Johannesburg for Ceylon tea, both wholesale and retail. He declares their tea refreshment shops to be superior in attractiveness, attendance, &c., to any he has seen in London. The Messrs. MacLure deserves a vote of thanks from the C. P. A.

I have been interested in a serious of papers by Miss E. A. Ormerod (the well-known leading Entomologist) on

"AGRICULTURAL PESTS

with Metods of Prevention;" and have secured the right of reproducing the series *in extenso*, in the *Tropical Agriculturist*; for, although, mainly dealing with agriculture in temperate regions, yet there is much in the information and hints, of value to tropical cultivators—planters and farmers; and the perusal of the eight articles cannot fail to benefit many in India, Ceylon, the Straits, &c.

In reference to the

LADY BIRD EXPERIMENT OF COFFEE

Mr. E. E. Green reports:—"I am writing to America to find out Mr. Koebele's present address. I think he has left the Sandwich Islands, having completed successfully his contract there. As soon as I know his whereabouts I will find out what his terms would be to start the experiment for us."

THE CEYLON TEA AND COCONUT ESTATES COMPANY, LIMITED.

The *Gazette* contains the memorandum and articles of Association of the Ceylon Tea and Coconut Estates Company, Limited, which has been formed to acquire the Perth and Maputugala estate in the Rayigam Korale of the Kalutara District. The original capital of the Company is R500,000, divided into one thousand shares of R500 each. The signatories are:—W. Henry Figg, Herbert Tarrant, H. H. Capper, Frank Capper, by his attorney H. H. Capper, Ada Capper, by her attorney H. H. Capper, Ethel M. Figg, by her attorney H. H. Capper and Katharine Fox Tarrant.

MARKET FOR TEA SHARES.

Thursday, Evening, Oct. 29, 1896.

A steady and increasing business has been in progress the past week in the shares of the Indian tea companies, mostly at advancing prices, and the Stock Exchange official list shows more than one advance in quotations. There is a great deal of investment buying going on in all the shares which stand in best repute.

Mincing Lane keeps rather easy, though there seems to have been something of a steadying in prices during the week just closed. Telegrams from India point to a somewhat early closing in of the cold weather, so that the total crop seems likely, if anything, to tot out slightly short of even the more recent revised estimate.

Fresh Issues.—Consolidated Tea and Lands Co. shares are now all quoted in the official list. Special settlement, 4th prox.—*Home and Colonial Mail*, Oct. 30.

THE LANKA PLANTATIONS COMPANY, LIMITED.

Directors.—Mr. George Allen, Chairman; Mr. William Austin, Mr. Henry Bois, and Mr. Edward Pettit.

Agents in Colombo.—Messrs. J. M. Robertson & Co.

Secretary.—Mr. Charles M. Robertson.

Authorised capital £200,000, in 15,000 ordinary shares of £10 each and 5,000 preference shares of £10 each, of which only 1,470 have been issued.

Report to be presented at the Sixteenth Ordinary General Meeting of the Lanka Plantations Company, Limited, to be held at the office of the Company, on Wednesday, the 11th November 1896, at 12 o'clock noon, precisely.

1. The Directors now submit their report for the twelve months ending 30th June last, together with the balance sheet and accounts of the Company made up to that date and duly audited.

2. The coffee crop shipped to London was 605 cwt., against 1,371 cwt. last year, and realized £2,757 11s 2d net. The acreage under coffee alone remains at 210 acres, and the trees being still in good heart are receiving careful cultivation.

3. The total crop of cocoa gathered on Yattawatte amounted to 1,355 cwt., against 1,214 cwt. last year, and realised £3,493 1s 3d, the market price being a shade stronger. During the season 51 acres were planted with cocoa, 41 acres of which have been interlined with Liberian coffee which is growing well; and 150 acres of available land adjoining the estate

have been purchased making a total of 192 acres new land. The cost of the land and the new planting are charged to capital account.

4. The tea received from the Company's estates amounted to 646,161 lb., and has been sold at an average of 8·15d per lb. net, realizing £21,967 10s 2d. Last year the Company received 528,018 lb., which was sold at an average of 8d per lb. net, and realized £17,507 3s 2d. Credit is due to the Superintendents for having so well maintained the quality of their teas in spite of increased yield.

5. The following statement shows the acreage and state of cultivation of the Company's estates on the 30th June last:—

Estate.	Coffee.	Tea.	Cocoa.	Grass.	Chena and Patena.	Forest and Timber Trees.	Total.
Ampittiakande } Aruhall }	50	414	—	4	167	70	705
Fruit Hill	—	225	—	—	12	—	237
Fordyce, Garbawn, Gonagalla and Paramatta	—	772	—	29	—	135	936
Rappahannock	23	302	—	31	30¾	87	473¾
Rillamulle	—	232	—	—	6	20	258
Thotulagalla	137	221	—	4	97	96	555
Yattawatte	—	—	*671	95	267	106	1139
	210	2166	671	163	579¾	514	4303¾

* 44 acres interlined with Liberian coffee.

6. The net profits for the past year amounted to £10,708 1s 1d, to which must be added the sum £1,270 18s 10d the balance brought forward from the year 1894-5, making together £11,978 19s 11d.

7. Having already paid a half-year's interim dividend on the six per cent preference shares to the 31st December 1895, amounting less property tax to £426 6d 0d, the Directors recommend the payment of the dividend on these shares to the 30th June last requiring less property tax a similar amount, and having deducted £1,566 the customary 10 per cent from the 10 years of the suspense account, they further recommend a dividend of 10s per share free of income tax (being 5 per cent per annum), on the ordinary shares, amounting to £7,500 carrying forward a balance of £2,060 7s 11d to the next account.

8. The Directors who retire on this occasion are Mr. Henry Bois and Mr. William Austin, who being eligible offer themselves for re-election.

9. Mr. John Smith, the Auditor, also retires and being a shareholder offers himself for re-election.—By order, C. M. Robertson, Secretary.

12, Fenchurch Street, London, E.C., Oct. 30, 1896.

PLANTING AND PRODUCE.

Japan Tea Exportation.—The floods in Japan have played havoc with the season's tea crop, the exports of which, it is estimated, will not be much more than half of tho exports last year. According to the latest Japanese papers, only 353,000lb of tea were brought to Yokohama between September 1 and September 15, showing a decrease of 580,000lb compared with the latter half of August. Many miles of railway were washed out by the floods. Only one branch remained intact in the cities of Kobé and Osaka, and freight had to be transferred by this single line as soon as traffic, at the end of September, could be resumed. The important line between Osaka and Kanzaki was still closed when the last steamers left. The prospects are for a speedy recovery of things, so that heavy shipments may be expected next month and throughout the coming winter.

A Phase of the Labour Question.—It is anything but gratifying to Indian planters, who are not so exempt as they would wish to be from labour troubles, to know that British Indian labour is received with condescension in countries not under British rule, and that the treatment accorded to the immigrant is anything but good. There are, of course, thousands of British Indian subjects who, like other emigrants, leave their country for their country's good, and who from labour point of view are useless. These are indifferent where they go so long as they make money. But there must be also many who are a loss to the labour market in India, and would remain at home if they knew what they had to put up with elsewhere. The lot of British Indians in Natal or the West Indies is rosy indeed compared with their life, say, in German East Africa or the Transvaal. The *Times* in its article on Indian affairs deals with the cynical appreciation of the British Indian recently expressed by Major von Wissmann, who in his statement of Germany's policy in Africa was good enough to explain that the greatest obstacle "to Germany's making East Africa what England had made India lay in the thinness of the population." "In order to obtain a denser population recourse might be had to settling the colony with Indians" and certain other Asiatics. Having thus obtained a supply of British Indian subjects to do the work of opening up the country —a work which the Arabs and negroes will not do—Major von Wissmann proposes that "the negroes should be taxed least, the Arabs more, and the Indians most of all." The writer of the *Times* article goes on to say: "Does Major von Wissmann really suppose that so valuable a class of British subjects are to be had by German administrators in East Africa on the terms of his programme?" Perhaps the Major does, for an impression prevails that Indian labour is to be had for the asking in any country or for any purpose. British Indian subjects are even attracted to the Transvaal, that land of promise for alien labour, where they receive characteristic consideration. The Johannesberg correspondent of the *Times*, writing of this treatment, says:—"The Boer Government has decided to bring in a drastic measure dealing with the Asiatic traders in this country. These poor fellows are to be cleared out of their present shops in the towns, and are to be allowed to trade in certain 'locations' only. Ostensibly, the change is to be made on hygienic grounds, but the real motive is that Asiatic traders are, erroneously, looked upon as a curse to the country, who spend no money in it and send all their savings to India. These people work hard and patiently and live upon little. I have had years of experience among the Tamils (a race of Southern India), of whom there are large numbers in Johannesburg, and a more decent, inoffensive people it would be hard to find. They are very proud to call themselves "British subjects of the Queen," and I believe that the Indian Government and India Office have contended that these Indians are British subjects with a right to claim British protection. Many thousands have been admitted into the Transvaal; they have brought goods from India, spent money in acquiring shops in the town, &c., and it is hoped that a gross injustice to these poor Indian traders may be avoided by a timely and judicious word of advice from the British Government to the authorities at Pretoria." Perhaps the Indian Government will exercise some inquiry into the treatment of Indian subjects in countries not under the British flag.—*H. and C. Mail*, Oct. 30.

CENTRAL TEA COMPANY OF CEYLON, LIMITED.

Directors.—J. Sancroft Holmes, Chairman; H. K. Rutherford, and W. H. Anderson.

Secretary.—Sir Wm. Johnston, Bart.

Manager in Ceylon.—H. V. Masefield.

Report of the Directors to be submitted at the First Annual Ordinary General Meeting of Shareholders to be held at 21, Mincing Lane, E.C., on Thursday the 5th November, 1896.

The Directors have the pleasure to submit the General Balance Sheet and Profit and Loss Account for the year ending 30th June, 1896, duly audited,

	£	s.	d.
The net amount at Credit of Profit and Loss Account, after providing for General Expenses, Directors' Fees, Income Tax, &c., is	3,091	15	0
Dividends on the 6 per cent Preference Shares were paid for 1895/6 (less Income Tax) amounting to ..	870	0	0
It is proposed to pay a Dividend of 10 per cent (less Income Tax) on the Ordinary Shares which will absorb ..	1,940	2	0
And to carry forward to next year a balance of	281	13	0
	£3,091	15	0

The Directors trust the results of the year's working of the Estates may be considered satisfactory by the Shareholders.

The gross average price realized for the tea crop was 8·14d per lb.: and the rate of exchanges 1s 2 5-64th d.

The following is a statement of the acreage and crop from the Company's Estates :—

Estates.	Tea in Bearing.	Tea not in Bearing.	Forest, &c.	Crop. lb.
Kabragalla ..	431	42	464	171,227
Somerset ..	221	—	19	95,900
Loxa and Easdale ..	166	—	27	30,587*
Totals ..	818	42	510	297,714

* Note.—Loxa and Easdale crop is for six months only.

Since the formation of the Company, Loxa and Easdale Estates have been purchased. To meet the purchase price of these properties the Directors arranged a temporary loan, and it is now proposed to issue 593 Ordinary Shares at a premium.

Under Clause No. 21 of the Articles of Association, Mr. J. Sancroft Holmes retires on this occasion from the Board, and, being eligile, offers himself for re-election.

It will be necessary to appoint Auditors for 1896/97.

By order of the Board, WM. JOHNSTON, Secretary.

London, 29th Oct. 1896.

A TRIP TO BANANALAND IN WINTER TIME.

BY H. T.

Truly as delightful a trip as any of us Southerners, as we are called in that land, can take; for not only do we escape the cold unsettled weather of Victoria during July and August, but we can bask under tropic sun, strong enough to make us glow under its heat, but tempered at such season by gentle breezes rendering it a pleasure to breathe and live under its rays.

After travelling about North Queensland for six weeks, one cannot help feeling surprised that so comparatively few Victorians take advantage of so pleasant and instructive a mode of escaping our winter, and seeing the tropical beauties of the North. They would find the scenery and the climate a revelation to them, and return with enlightened ideas as to the characteristics of that truly interesting portion of this great continent.

It seems to us that what is to be seen in these parts is not sufficiently advertized and made known, (such as is done for New Zealand), and it is with the view of assisting to supply such want that we have put together a few hasty notes of our experiences.

There are many opportunities of reaching the district of which we write whether by rail to Brisbane and thence by steamer, or by sea direct from Melbourne by the S. N. Co., Howard Smith & Co,, or the Adelaide Steam Ship Co. Our experience being by the boats of the first-named Company, we can only speak of them and better coasting steamers than the "Arawatta" "Aramac," and "Wodonga" could not be desired. The "Wodonga" is the largest and best of the three. Great cleanliness prevails everywhere in it, and the table is abundant and well-served. The only improvement we could suggest is less hurry in getting through the meals, but that seems to arise as much from the American habit of bolting food on the part of the passengers, as from the hurry of the stewards. It would appear as if the native-born were following the States in that particular, as the same fault obtains in the hotels in the North. This haste, in our opinion, accounts, to a great extent, for the number of people one sees with bad teeth. It must however be good for the dentists.

It is needless to say anything of such a well-known place as Brisbane (which is *not* Bananaland), except to mention that, on one of the nights we were there, occured the severest frost on record, the bulb thermometer on the ground at the Acclimitization Society gardens registering 19 degrees of frost, and great damage was caused thereby to the palms, pineapples and all delicate plants of tropical growth; and we found Mr. Souttar, the general and able Curator of these gardens, lamenting over the sorry sight they presented on our visit to them.

Passing on to the North, somewhat less than four day's steaming brings us to Townsville, allowing for calling at Keppel Bay (landing passengers and cargo for Rockhampton), Bowen and Flat Top, for Mackay passengers.

Townsville being in lat. 15, we are now fairly in the tropics. Like nearly all the coastal towns in Queensland its site has been badly chosen for access by water, the shallow depth even at high tide making it inconvenient for steamers of the "Wodanga's" size to go up the mouth of the river, and cargo and passengers have to be landed by lighters. Of course at present matters are made worse from the disastrous effects of the cyclone in January last, which destroyed a large portion of the breakwater. Had the town however been placed two miles further north there is every indication that much money would have been saved, a safer breakwater constructed, and easier access provided.

Townsville is an interesting place and full of life and bustle for its size, and it might easily be made a handsome city in time to come, if the Municipality or Divisional Board, as such institution is called in these parts, would exercise taste and spend some money in improving and planting with trees the principal streets, as well as clearing away a great many unsightly objects which now offend the eye. Townsville possesses some buildings, notably the offices of Burns, Philip & Co., some insurance companies and banks, &c., but they are bordered by insignificant wood-and-iron structures of the old shanty type which will no doubt disappear in time.

There is a rocky hill bordering on the sea whereon a number of rather neat private residences are perched in positions which look somewhat dangerous for a place exposed to cyclones.

On the north shore, the hospital is finely situated on a rise, and further on is the orphanage in the middle of a nice garden, showing the advantage of the free labour given by the boys, while a mile onwards, the battery at Kissing Point commands the harbour; but the most commanding feature is the Castle Rock standing a little inwards and sloping down to the town at its base. This rock is about 900 feet high and easy of ascent, although few residents ever seem to go up it. From its top the view north and south, seawards as well as inland, is very extensive and fine.

The railway to Hughenden is one of the sources of business to Townsville, opening up as it does connection with the flourishing mining centre of Charters Towers and the squatting districts westwards.

For some months past the chief traffic on this railway has been, unfortunately for the country, the transport from the interior of tick-infested cattle which have been hurried down in thousands to be boiled down for the sake of tallow and hides at the

two meat works in the vicinity of Townsville, which have found it to their advantage to employ their plant in such process for the present.

In fact just now whereever one goes about Townsville there is little else talked of than "ticks," and we were not long there without seeing them, both dead and alive. Bad as this plague is and ruinous as have been the losses caused thereby over a large extent of country, it seems now on the decrease, and old experienced squatters think that they will disappear as quickly as they have come.

And now proceeding further north we rejoin the steamer again for the 200 odd miles to Cairns. The best plan is to go there in one of the big steamers, and return in small coasting boat the "Palmer" which calls at many interesting ports on its voyage. Cairns itself is not pretty, but being surrounded by a range of mountains commencing to rise at about 10 miles inland, the view from the sea is picturesque. The water is very shallow for a long way out, and it is only at high tide the steamers can approach the wharf. When we arrived it was Carnival week, there being races, agricultural show, bazaar, ball, &c., yet at ordinary times it seems a very sleepy place. The streets are wide—too wide—for they are hot made, and the dust is great unless when it rains. There is a Government nursery at Kemerunga where many tropical economical plants can be seen, and where coffee is growing luxuriantly, but it is situated too far from the town, being 9 miles, and a bad road, so that comparatively few people visit it. The sugar plantation and mill of the Messrs. Swallow, formerly of Melbourne, is about the same distance in another direction, and it is well worth visiting. The mill was in full work day and night, with electric light, pressing canes of good quality.

On the Hambledon plantation can be seen about 30 acres of Arabian coffee only planted out 12 months ago and already giving good promise of blossom, while in Mr. W. H. Swallow's garden there are cacao trees, cinnamon, and other tropical products, formerly confined to the East and West Indies, but now bearing evidence of the suitableness of the climate and soil of Northern Queensland to produce them all, given the needful labour,—indeed, we think on this account alone there is a promising future for Cairns as the centre and port for the export of such products. On the slopes of the hills and on the table land above the ranges there is any quantity of splendid land awaiting clearing and planting

There are also now being arranged the erection of one or more central sugar mills under the "Sugar Works Guarantee Act," involving the opening up by farmers of a considerable tract of country lying between 20 and 40 miles of Cairns, in which direction a permanent tramway is now in course of construction. All this is bringing money and population into this district.

The chief attraction of this part of Queensland is to go up the Cairns Railway to see the Boron Rooa George and Waterfall, out of all question the finest scenery of its kind to be met with in Australia. The railway in itself is, as is well-known, a remarkable undertaking. For about 8 miles it runs along tolerably level country through dense tropical jungle in parts, then it ascends the Barron Gorge reaching in twelve miles the Falls, 1,200 feet above sea level. In that distance it passes through 15 tunnels of various lengths and traverses many bridges, passing on one of them the Stoney Creek Falls, the spray from the water of which dashes over the bridge in flood time. On another at Surprise Creek the rails pass 70 feet clear above the bed, and passing you look sheer down 1,000 feet into the bed of the Barron. The scene is constantly changing as you wind along the steep sides of the mountains, at some points a magnificent view of the Pacific Ocean discloses itself, at others you look at the ranges on the opposite side of the Gorge, descending precipitously down into the valley for 2,000 feet, all clothed clothed from base to summit with trees and plants and tropical vegetation of all sorts. Then come the Falls themselves facing the line where the river clears the descent of 700 feet to the rocks below. It would be difficult to overstate the beauty and grandeur of this even when the waters are low, and in flood it must be a grander sight.

At Kuranda station about 1½ mile above the Falls, there is a small but comfortable hotel which accommodates about 10 guests, and here it is desirable to stay for a day or two, walk down to the Falls and view them at leisure. There are also interesting excursions which can be made from Kuranda into the rich agricultural land and heavily timbered scrub of the Upper Barron; while beyond the railway passes into the Herberton country, rich in tin and silver minerals.

A few miles above Kuranda can be seen two small coffee plantations of between four and ten acres each, the trees on which are about four years old, and the yield of last season was very satisfactory and profitable.

As the introducion of Japanese as labourers in these northern latitudes is quite of recent date, it may be of interest to note that we saw about 60 of them working at various occupations, on the Hambledon sugar plantation, and also at Goondi on the Johnstone river. These Japs are not like the stray ones to be seen sometimes in Melbourne, but are sturdy strong fellows evidently acustsmed to country work. They are short but broad shouldered and muscular, are quick at picking up their new duties prove quiet and contented subjects filling a place quite unsuited by climate for white labour.

The places of interest touched at by the "Palma" on the return voyage from Cairns to Townsville are too numerous to detail in a sketchy paper such as this, but the Johnstone River will serve as a sample. Nine or ten miles up this river, which can only be entered at high tide, is the township of Geraldton which owes its existence to bananas and sugar. For miles below and above it, the banks are lined with banana plantations all leased, and in some instance purchased, by Chinamen, who, cultivate with success and profit this fruit. Knowing when the steamer is due they have large flat bottomed boats piled with bunches and cases ready for shipment south.

On the occasion of over the "Palma" grounded on a sand bank about a mile from the town, and in spite of the personal exertions of Capt. Clark, who worked like a seaman himself, it was 40 hours before she was got off; meanwhile we had an opportunity of visiting the large sugar mill at Goondi belonging to the Colonial Sugar Refining Company. This mill in addition to passing canes of their own crushes for farmers, who either lease or purchase adjacent land from the Company under a seven years agreement; and from such information as we gathered both from the Company's representatives, and the farmers themselves, the arrangement worked harmoniously and to their mutual advantage.

The dense and impenetrable tropical bush where the country has not been cleared is in itself a sight to see. Palms of all sort vie with native trees to reach the light, while the tree ferns also rear their stateliness, and gigantic creepers clasp all in their embrace, and can be seen at the tree tops 50 or 60 feet above with their cable like ropes coming down to the ground, where ferns of all kinds and sizes from the tiny maidenhair to the huge bird-nest abound. There is no entering such jungle without a way being cut out, and in some places when a track has been opened for access to where some gaint of the forest has been felled, it is like entering a tunnel which never sees the sun.

One of the beauty spots the "Palma" called at on her way to Townsville is Mourilyan harbour. The entrance is saw narrow that a stone could be thrown on those on either side of the steamer, but once inside a harbour of great size presents itself surrounded with hills clad with burden from top to the water edge. The rememberance of our short glimpse at this place remains with us as a dream of loveliness.

To conclude these rough notes we quote a remark made by Sir Samual Griffiths in an able paper of his on Federation recently published in Brisbane, and which we may say has been the main incentive

of our putting them together:—"The present lack of more general acquaintance and intercourse between the different colonies is probably one of the most serious obstacles now existing in the way of Federation.

NOTES FROM THE METROPOLIS.

CEYLON TEA

in sales this week had rather a check through an unexpectedly large offer of "Indians;" but this may be only temporary. More is thought of the talk of a City Syndicate (of the financiers, it is said) banded to send out improved

TEA MACHINERY TO CHINA

with the avowed object of preparing and assorting China tea into Broken Pekoes and Pekoes as well as Souchongs. Many, however, doubt the prospect of success and, indeed, assert that the first man to try to erect such machinery in the interior will soon be "a head the shorter!" Possibly, the object is to erect a Factory in a treaty town on the coast. At any rate City men do not often give money without some assurance of practical work. Then there is some talk again of what

JAVA

is going to do with its rich soil, good jât and new factories. This week some Java teas have been selling up to an average of 10d and 11d; but one who ought to know assures me that Java teas are more likely to be a rival to strong "Assams" than to "Ceylons." Still, to increase the quantity of Indian quality is a serious enough prospect, except we got America, Russia and Australasia to take off a great deal more and oust China and Japan.

Mr. G. A Talbot is off to

BRAZIL

to see for himself the great Dumont Coffee Company's plantations and much interest will be felt in his report: surprise is expressed that the attempt was not made some time ago to get the opinion of the *Observer*'s Brazil correspondent, Mr. A. Scott Blacklaw, now one of the oldest European residents and planting authorities from Ceylon.

A visit to the new offices of

THE CEYLON ASSOCIATION

this week carried me up to the topmost story (by a convenient "lift") of a handsome block in Gracechurch-street, where I found Mr. Leake very comfortably located for his business offices, and a commodious, well-lighted chamber allotted to the Association. It is marvellous to see how well and youthful the leading Kandy merchant and planter of the "fifties" and "sixties" continues to be. Any stranger would certainly guess Mr. Leake to be ten to twelve years younger than he actually is. His career has been an exceedingly interesting as well as useful one from school and college days onwards, and I hope it may be my privilege to set it forth in the *Tropical Agriculturist* series of Pioneers erelong.

I was very sorry to miss the meeting of the

NEW DIMBULA PLANTATION COMPANY,

which owes so much, primarily to the Ceylon Manager, Mr. Dick-Lauder, and his staff, and next to the Board of Directors with Mr. Herbert Anderson and to the Secretary, Mr. Crabbe. But here is the report of the proceedings at the meeting:—

THE NEW DIMBULA COMPANY, LD.

Report of proceedings of the twelfth ordinary general meeting, held at No. 25, Gracechurch Street, London, on Wednesday, 21st October, 1896. H. Brooks, Esq., in the chair.

The Secretary having read the notice convening the meeting, and the minutes of the last meeting, held on October 23rd 1895.

The Chairman said: I have now to move that the Report, Balance Sheet and Accounts as presented by the Directors be received and adopted. The Directors with me are all very pleased to have again an opportunity of meeting the shareholders with a Statement of Accounts which cannot fail, I think, to give universal satisfaction. I am pleased to say that in the past season the yield of tea has shown a satisfactory increase upon the previous year, and reached the large total of 960,000 lb. and this is one reason, of course, for the improved condition of our accounts. I may add that it is hoped that in the present season the yield will exceed a million pounds. Another cause of our success in the past season has been the improved price obtained for tea, the average net price of the whole crop having exceeded last year's price by 1¼d. per lb. On the other hand, there has been an increase in the cost of about ½d. per lb. This, however, is largely due to the fact that the whole of the most recently planted tea is now included in the acreage plucked. At the elevation of this estate young tea takes a long time to come to maturity, but we hope as the yield increases, the cost will revert to something near its previous low level. I do not think there are any items in the Accounts which call for special comment from me. They are, I think, put forward in a very clear manner. It may possibly occur to some of the shareholders that a larger dividend might have been paid, but in view of the unusually favorable circumstances of the past season, your Directors think that the most prudent course is to take advantage of the opportunity to add to the Reserve Fund. (Applause.) I took occasion last year to call attention to and to congratulate the shareholders upon the extinction of all arrears of dividends upon the "B" shares, and the payment of a first dividend to the "C" shareholders. We are now launched on our career free of this drag of arrears, and have now completed the first year on the freer conditions, and I am very pleased that we are able to pay such a satisfactory dividend as that which is now recommended, and my earnest wish is that it may be continued to you for many years to come. (Applause.) I have to move that the Report, Balance Sheet and accounts as presented by the Directors be received and adopted.

Sir A. N. Birch, K.C.M.G., having seconded the motion, Mr. James Anderson stated that he thought the accounts exceedingly satisfactory. He gathered from them that the net profit amounted during the year to £23,852 16s 3d and that the Company had in hand after paying the proposed dividends the sum of £13,702 3s 2d, including the Reserve Account, and that the outstanding liabilities only amounted to a small sum, and that the position of the Company was a very strong one, and he did not see the necessity of adding to the Reserve Fund, but thought it would be more satisfactory if larger dividends were paid. He also referred to the item of Coast Advances which he thought was very small and reflected great credit on the management.

The Chairman in reply stated that the opinion of the Board was that if they started with a dividend of 16 per cent. they would like to keep it up. They did not want to start with a flourish of trumpets and pay a 20 per cent., dividend and then have to come down to a 16 per cent., that would be rather derogatory; they liked to feel their way a little carefully to begin with, and though there could be possible objection to putting the Company on a solid basis besides this was their first year on the altered conditions of existance, and there were other reasons why they should be prepared with a Reserve Fund.

The resolution was put to the Meeting and carried unanimously.

The Chairman then moved: That a dividened be declared of 8 per cent., per annum on the "A" and "B" shares, and of 6 per cent., per annum on the "C" shares, for the year ending June 30th, 1896; and that an additional dividend

of 8 per cent., be declared on all shares; that the same be payable on October 22nd less the interim dividends paid in March last, and that £5,000 be placed to the Reserve Fund.

Mr. W. S. BENNETT seconded the motion which was carried unanimously.

Mr. W. S. BENNETT:—I have now to ask the Chairman to put this resolution, and I have a peculiar pleasure in doing so, because Mr. Brooks and I have served together on the Board from the very beginning of the new Company, and therefore, I have great pleasure in proposing, that Mr. Herbert Brooks be re-elected a Director of the Company.

Mr. W. HERBERT ANDERSON seconded the re-election of the Chairman.

The resolution was carried unanimously.

The CHAIRMAN:—Gentlemen, I have to thank you very much for the honour you have done me in re-electing me as a Director. It is not the first time you have re-elected me, I think it is the third or fourth, and each time I have still the same pleasure in thanking you and saying I will continue to do my best as I have done hitherto for the good of the Company.

MR. HENRY BROOKS proposed:—That Mr. George Sneath be elected Auditor for the ensuing year at a fee of 20 guineas.

MR. T. A. PARKER.—I shall be glad to second that resolution.

The resolution was carried.

THE CHAIRMAN.—The next resolution comes as an annual dish. I think it ought not to be passed over in silence. It is that a vote of thanks be accorded to our Resident Manager and staff in Ceylon. Attention has already been called to the manner in which he has kept down the Coast Advances, and I can say that the Board very closely scrutinise the expenditure in Ceylon, and they can only speak favourably on the question of cost. I am sure his heart is in his work, and he is ably supported by his staff. I have much pleasure in proposing a vote of thanks to the Resident Manager and the Colonial staff.

MR. J. ANDERSON.—I have great pleasure in seconding this motion. I am sure anyone who has been connected with the Company as long as I have—and that has been from the commencement—and who knows Mr. Dick Lauder personally, must thoroughly appreciate him for the way in which he manages the work of this Company. As I said before, I do not suppose there is any company whose efforts have been attended with so much success, and I am sure a great deal of it is due to the manager on the spot and the staff.

The resolution was carried unanimously.

MR. J. ANDERSON:—Before we part, I think it our duty to move a vote of thanks to the Chairman and Directors. Everything that they have put before us is satisfactory. I may differ a little with the Chairman and Directors on one point, that is the Reserve Fund, but I think the great success of the Company is largely due to the Chairman and Directors. I have great pleasure in moving a vote of thanks to the Chairman and Directors.

Mr. PARKER:—I have much pleasure in seconding it.

The resolution was put to the meeting and carried unanimously.

The CHAIRMAN:—I must again thank you for the very pleasing compliment. I can assure you it gives us very much pleasure to work for the Company, and it is very pleasing to us that we have so few differences with our shareholders. We are very much obliged to you for your kindness.

The proceedings then terminated.

THE MIDLANDS TEA PLANTATIONS CO.

which owns Strathellie, Gneiss Rock, etc., has made a good purchase in

BLACKSTON EESTATE

for £16,500—good, because it rounds off and improves the rest of their property, affording, too, a capital factory for extended operations. Messrs. Gow, Wilson & Stanton are now to offer Mr. T. C. Anderson's

CARTMORE

(Maskeliya) properties by public auction on 26th Nov., with a reserve price of no mean proportions. Indeed, if rumour speaks true, private offers running considerably over £30,000 have already been placed on one side.

THE AGRA OUVAH ESTATES CO., LD.

Minutes of proceedings at the extraordinary general meeting of shareholders of the Agra Ouvah Estates Company, Ld., held at No. 7, Queen Street, Fort, Colombo, on Saturday, 14th Nov. 1896.

Present:—Mr. C. A. Leechman, in the Chair, and Mr. G. H. Alston, Directors; Mr. F. F. Street, Mr. Jas. Forbes and Mr. C. J. Donald.

The following shareholders were represented by the holders of their powers of attorney.—Mr. G. W. Carlyon by Mr. G. H. Alston, Mr. W. H. Figg by Mr. G. H. Alston, Mr. G. C. Walker by Mr. Jas. Forbes.

Mr. LEECHMAN having taken the chair, the notice convening the meeting was read. He then said:—The only business we have to deal with today is to confirm the special resolution passed on 24 October last.

Proposed by the CHAIRMAN:—"That the Share Capital of the Company be and the same is hereby increased from R400,000 to R750,000, by the creation of 700 shares of R500 each."

This was seconded by Mr. JAS. FORBES and carried *nem. con.*

A NEW DEVELOPMENT IN THE TEA TRADE.

A meeting of the Management Committee of the Birmingham Grocers' Association was held at the offices of the Secretary, Colmore Row, last night, Mr. J. L. Instone presiding.—Mr. J. Norris called attention to what he described as the latest development in the tea trade. A large firm of local tea dealers was offering pianos as an inducement to purchase of their tea. Grocers were exhibiting the pianos in their windows, and he regarded this as a degradation of the trade. The Association had protested against the present system in the trade, and thought they should take some action in this instance.—Councillor Jarvis thought the members of the Association had tied their hands in the matter. They were unfortunately compelled to sell proprietary articles which were accompanied by presents. He understood that the objects of the firm in question in offering the pianos simply meant diverting a portion of the money they spent in advertising. He did not see how they could object to such an arrangement.—The two members of the firm concerned attended the meeting, and explained the circumstances under which they offered the pianos saying it was nothing more or less than an advertisement.—A discussion took place as to whether they would discontinue requesting grocers to exhibit the pianos in their windows, and a promise was given that no further firms should be asked to exhibit them, and that if those who entered into arrangements to do so were willing to break the contract the firm would not object. It was also stated that the value of the tea was exactly the same as before the 100 pianos were offered. A resolution was passed that, having heard the explanation of the originators of the new development, they be requested to consider how far they could meet the wishes of the Association in withdrawing the exhibition of the pianos in grocers' shop windows, and the matter dropped.—*Birmingham Daily Post.*

TEA IN AMERICA.

NEW YORK, Oct. 14.

At last there are signs of improvement in demand and so marked that some varities, notably low grade Formosas, are up fully 2c per pound. There is no improvement to note in price for green teas, but holders of Japan are much more confident, parcticularly as the export this year is far below last. Ceylon and India sorts are steady.

Last week the Montgomery Auction and Commission Company sold 6,693 packages of tea, as follows: Moyune—25 Hyson 6¾ at 7c: 421 Young Hyson, 6½ at 27½c; 100 Imperial, 7 at 19½c; 199 Gunpowder, 14½ at 34½c. Pingsuey—233 Imperial, 9½ at 15c; 731 Gunpowder, 9 at 23c. Japan—466 Congou, 9 at 17c; 168 India and Orange Pekoe, 11 at 17c; 56 Capers, 11at 16½c. Oolong—531 Foochow, 6½ at8c; 3,163 Formosa, 13 at 36½c.

To-day at noon the Montgomery Auction and Commission Company will sell 6,904 packages, viz: 671 packages Moynne, new season's, including attactive chops; 806 boxes Pingsuey, invoices of seasons 1896 and 1897; 5 half-chests Japan; 901 half-chests and boxes Congou, including new season's, and comprising fancy Monings, Ning Chows and desirable Pekoes and Paklings; 24 boxes Capers; 126 packages India, Java and Ceylon, including fancy grades; 423 half-chests Foochow; 3,948 half-chests and boxes Formosa, a very attractive offering, including new season's, fancy invoices of specially selected rich and spicy summer crop and invoices of desirable leaf, heavy drawing teas.—*American Grocer*, Oct. 14.

THE WE-OYA TEA COMPANY, LD.

At a meeting of the shareholders of the above Company held on Thursday, 19th Nov. 1896, the following were present:—

Directors: Mr. E. J. Young, in the chair, Messrs. E. S. Anderson and W. J. Smith.

Messrs. A. Thomson, W. D. Gibbon, G. Vanderspar, E. H. A. Vanderspar, Gordon Pyper, H. Creasy, D. Edwards, and J. H. Starey. Mr. C. J. Donald acted as Secretary.

The following were represented by their attorneys:—Messrs. C. Young, A. Morrison, W. Cookes, Major G. L. Gwatkin, G. C. Walker, J. MacLiesh, J. H. Johnston, J. K. Morrison, and Mrs. E. C. Baillie.

The following were represented by proxies:—Messrs. F. G. A. Lane, W. F. R. Reid, W. P. Metcalfe, Mrs. L. C. Stuart, and Mrs. A. S Donald.

It was proposed:—"That the We-Oya Tea Company, Ld., be wound up voluntarily,"—which was carried unanimously.

THE LATE DR. TRIMEN, F.R.S.

DR. TRIMEN'S death has attracted much notice in England. One correspondent writes:—

"We were, as you may suppose, much grieved to hear of poor Dr. Trimen's death. There have been several very appreciative notices in the London papers. One from the *Gardener's Chronicle* is good; also a notice of his retirement from the *Kew Bulletin* of July or August last. There will be a notice of his death in the November Bulletin.'

The notices are as follows:—

DR. HENRY TRIMEN.

The friends and acquaintances of Dr. Henry Trimen will receive the news of his death with deep sorrow. His modesty, his gentleness, his sympathy, his right-mindedness, his sweetness of disposition, and readiness to help, were as remarkable as his extensive botanical attainments. Trimen was educated for the medical profession, and took the degree of Bachelor of Medicine at the University of London. Attaching himself particularly to the study of botany, he became an assistant in the Botanical Department of the British Museum; and on the death of our old correspondent, Dr. Thwaites, in 1882, became Director of the Royal Botanic Garden at Peradeniya, Ceylon. That position he filled till compelled recently by ill-health to relinquish his duties.

Dr. Trimen first attracted attention by the excellent *Flora of Middlesex*, prepared by himself in conjunction with Mr. W. Thiselton-Dyer, the present Director of the Royal Gardens, Kew. That book has formed the model on which all subsequent county floras have been prepared, and the more closely they have approximated to it, the more valuable has been the result.

During the period of his service in the British Museum, Trimen was associated with the late Professor Bentley in the preparation of the standard work on Medical Botany, and also edited the *Journal of Botany*, in which periodical appeared several critical notices from his pen. On his appointment to the directorship of the beautiful garden at Peradeniya, Trimen took up the work left unfinished by Thwaites, and devoted himself to the preparation of a complete flora of the island. Three parts of the *Handbook to the Flora of Ceylon* have appeared, bringing the work down to the Balanophoraceæ, so that the work is well advanced, and we trust material may be in hand for its completion. It is accompanied by an atlas of coloured plates of the more interesting species. Not long since Trimen visited this country to seek medical assistance when his friends were shocked at his condition, and entertained forebodings which the event has only too surely verified. Dr. Trimen died at Peradeniya on 16th inst., in his 53rd year.

It will be a matter of deep regret not merely to the Government of the colony, which he has served so well, but also to the botanical world, that Dr. Trimen was obliged, owing to the serious ill-health, to retire on July 1st last from the post of Director of the Royal Botanic Gardens, Peradeniya, in Ceylon. Dr. Trimen, who was at the time second officer in the Botanical Department of the British Museum, was appointed on the recommendation of Kew to succeed the late Dr. Thwaites in 1879. His administration of Peradeniya, whether from a practical or a scientific point of view, has brought it into the front rank of the great botanical establishments of the world. On this point the following extract may be quoted from an article by Dr. Treub, the Director of the Great Botanic Garden of the Dutch Government at Buitenzorg in Java. This article, originally published in the *Revue des Deux Mondes* for January last, has been translated in the *Smithsonian Report* issued from Washington.

Extract from "A Tropical Botanic Garden," by Dr. Treub, in *Smithsonian Report* for 1890, p. 390:—

"The Royal Garden of Peradeniya, in the island of Ceylon, was found in 1821. Situated near Kandy, at an altitude of nearly 500 metres [1,600 feet], having a moist and hot climate, occupying more than 60 hectares [150 acres], and connected as it is with the port of Colombo by a railway, the garden of Peradeniya possesses conditions most favourable in every respect. For many years it was under the direction of Dr. Thwaites, a man of real merit, but who thought a botanic garden in a tropical country should be in some manner a reduced copy of the virgin forest. This system, more original than meritorious, excludes any methodical arrangement of plants and necessarily restricts the number of specimens. Dr. H. Trimen, the successor of Dr. Thwaites, as soon as he arrived in Ceylon, realised the disadvantages of the plan of his predecessor. To distribute over an area of 60 hectares, without any order, a great number of plants, for the most part not labelled, was to fatally embarrass the scientific use of the rich collections that had been brought

together. So Dr. Trimen did not hesitate to adopt a new arrangement of plants according to the natural system, and to label them as far as it was possible to do so. With branch establishments upon the plain and upon the mountain, the garden of Peradeniya has before it a brilliant future.

Dr. Trimen has not merely carried out a most efficient and thorough reorganisation of his department, but he has signalised his term of office by the production of three volumes accompanied by an atlas of plates of the long-desired *Handbook of the Flora of Ceylon.* (For notices of these volumes, reference may be made to the *Kew Bulletin* for 1893, pp. 34 and 227, and 1895, p. 236.) A final volume alone remains to complete this valuable work. It is satisfactory to record that Dr. Trimen has been "given by the unanimous vote of the Legislative Council a special allowance in addition to his pension for the last six months of the year in order to complete the scientific work upon which he is now engaged."

Intelligence has reached England of the death, on the 18th inst., at Peradeniya, Ceylon in his fifty-third year, of Dr. Henry Trimen, F.R.S., F.L.S., late Director of the Royal Botanic Gardens, Ceylon. The deceased gentleman was formerly senior assistant in the botanical department of the British Museum, prior to which he had acted as lecturer on botany at St. Mary's Hospital Medical School. He was also for many years editor of the *Journal of Botany.* In conjunction with Bentley he wrote "Medicinal Plants," a work much valued by pharmacists and he was one of the authors of Trimen and Dyer's "Flora of Middlesex." Of late years he had been engaged in writing a "Handbook to the Flora of Ceylon," three volumes of which have already been published,

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The friends of Dr. Trimen who saw him during his last visit to England—a twelvemonth ago last summer—would not be altogether unprepared for a serious turn in the malady, or rather maladies, from which he suffered; yet the news of his death on the 16th inst. came as a surprise, even to those best acquainted with his condition. For several years he suffered from deafness, which at length became absolute, and then gradual paralysis of the lower limbs set in. This terminated not long since in utter helplessness so far as his legs were concerned, and functional complications arising, he succumbed sooner than was expected. He bore his afflictions with wonderful fortitude, and even cheerfulness; and his only desire was to be spared to complete his great work, the "Handbook to the Flora of Ceylon." But this was not to be. It is to be hoped, however, that a competent botanist will be found to complete this important and admirably-planned publication.

Henry Trimen was born in London in 1843, and educated at King's College. In 1865 he graduated M.B., but he never practised medicine. His favourite study was botany, and he at first specially devoted himself to the British flora and the sources of vegetable drugs. In 1867 he was appointed Lecturer on Botany at St. Mary's Hospital Medical School; and in 1869, he entered the Botanical Department of the British Museum as senior assistant. In the meantime he had published a number of contributions to British botany, chiefly relating to the flora of Surrey, of Hampshire and especially of Middlesex. His first work appeared in the *Phytologist* in 1862. Soon he became acquainted with W. T. Thiselton-Dyer, the present Director of Kew Gardens, and the result was their admirable "Flora of Middlesex," published in 1869. This work still holds a position in the first rank among county "Floras." In 1886, Trimen discovered *Wolffia arrhiza* at Staines; the first locality recorded for it in England. It was in that year that writer became acquainted with Trimen and his associate, and made various excursions with them collecting materials for their "Flora." In 1870, Trimen joined Dr. B. Seemann in editing the *Journal of Botany,* and on the death of the latter he assumed the full responsibilities of editor, which he continued to exercise until he went to Ceylon. Concurrently he was conducting his investigations in medical botany, and he associated himself with Robert Bentley in the publication of an illustrated work on "Medicinal Plants"—a work of much research, comprising four volumes containing upwards of 300 coloured plates. Passing over many minor events, we come to the period when he was appointed to succeed Dr. Thwaites in the important and onerous duties of Director of the Botanic Gardens of Ceylon—duties he discharged in a manner satisfactory to the home authorities and the colonists. His annual reports are models of what such reports should be. He at once took up the study of the native flora, and was soon actively engaged in the introduction of valuable economic plants of other countries for cultivation in Ceylon. The first volume of his "Handbook" appeared in 1893; the second in 1894; and the third in 1895; and from his last letters we learn that he was still working with a will, in spite of his afflictions.

As a botanist, Trimen was a man of great attainments. As a friend, he was sympathetic, sincere, and constant. His work was always thoroughly and conscientiously performed, and is consequently of an enduring nature. This was recognised in his being elected a Fellow of the Royal Society in 1884
—*Nature* W. BOTTING HEMSLEY.

CHINAS' TEA TRADE.

Eight of the leading British tea merchants in northern China have addressed to the Shanghai Chamber of Commerce the following interesting letter:—

"As a Tariff question is now being re-opened, the occasion seems fitting that we, the undersigned, buyers of tea in North China, should ask your particular attention to the disastrous condition into which the Chinese tea trade has fallen; which is, in our opinion, largely due to the heavy taxation under which it has laboured for many years, a taxation far in excess of the Treaty tariff of 5 per cent. *ad valorem.*

"During last season, 1895-1896, the export of black tea from China to great Britain has amounted to only 37½ million pounds, as against 117 millions in season 1887-1888, and 169 millions in seasons 1880-1881, a decrease of 131½ million pounds in fifteen years. This enormous decrease in the volume of the trade, one of the main foundations of our commercial existence in China, has, needless to say, been attended in its course with terrible loss and distress to a large number of foreigners and to hundreds of thousands of Chinese.

"The taxation consists of the export duty, Haikuan Taels 2½ per picul, and the *likin* taxes which average about Taels 2½ per picul,—in all, say Tls. 5 per picul, which was the average cost of black tea in North China is about Tls. 20 per picul duty paid, means a tax of over 30 per cent. on the cost of tea purchased at the treaty Ports. On sound common tea, which costs about Tls. 11 per picul duty paid, the taxation thus amounts to over 80 per cent. on the cost. Now the Treaties of Nanking and Tientsin (1842 and 1858) fixed the duty on tea at Haikuan Taels at 2½ per picul, which was to represent an *ad valorem* rate of 5 per cent. At the present time, however, an *ad valorem* rate of 5 per cent. would be only about ¾ of the Tael per picul and foreigners were entitled every ten years to have the Tariff revised in this sense, under Article 27 of the Treaty of Tientsin, 26th June, 1858. As to the *likin* exactions, which go to make up the Taels 5 per picul, these were of course never contemplated by the Treatics.

"It is only natural that Chinese tea penalised as it is by this crushing taxation, has been quite unable to compete with the untaxed produce of India and Ceylon. Not only in England but also in the smaller markets of Australia and America, do we see the working of this inevitable law.

"To Australia, China will ship this season only about 7 million pounds of Black Tea, as against 21 millions in 1880 and 1881; there the untaxed

British grown teas have begun to be taken of late years with the usual result, so that the Australian is now almost on all fours with the English trade.

"To North America China ships bulk of her green teas, and there again the taxation tells, as in that market these teas have to face the competition of comparatively untaxed Japan teas (the duty in Japan being only $1 per picul) with the usual result of a decling export from China."

"The decay of China Tea Trade is going on so persistently that it will soon become a lost trade, unless its burdens are removed. To restore it to a healthy state, we would recommend further steps being taken towards improved quality, and as the producers seem unable or unwilling to effect reforms in this direction, it would be well if the government were to appoint a board of enquiry, to carry out such reforms as might suggest themselves, from a study of what is done elsewhere."

The same subject occupies the attention of foreign merchants in Amoy, where the proximity of Formosa and consequent familiarity with Japanese rates of taxation, bring into marked salience the cripping weight of the Chinese impost. Tea grown in Formosa under Japanese rule pays no *likin* or other local tax the only impost levied being an export duty of $1.10 per picul. On the other hand, tea exported from Amoy pays an export duty of $3.85 per picul, together with about $3 *likin*. Thus the difference of taxation is no less than $5.75, or, in other words, tea exported from China is taxed more than five times as heavily as tea exported from Formosa. A great difficulty against which Formosa has to contend is the want of harbour facilities: there is no harbour within easy reach of the tea districts where large steamers can load safely throughout the year. Hence Formosan tea has hitherto been carried to Amoy for final shipment, and the merchants of Amoy are naturally apprehensive lest, under Japanese rule in Formosa, the course of trade may be altered. Mr. Consul Gardner, in his last trade report for Amoy, says:—"The loss of the Formosa tea business to Amoy would be a very serious blow to the prosperity of the port, would seriously effect the Customs revenue in the matter of tonnage dues, would throw out of employment many hundreds of labourers, and by reducing the circulation of money in the city by some millions of dollars, materially affect its already rapidly-declining prosperity. It is impossible to over-estimate the value in indirect ways which the Formosa tea trade is to Amoy, and all interested in the welfare of our port, officials and merchants alike, should do their utmost to retain it."

We do not, for our own part, believe that the want of harbour facilities will long be suffered to injure Formosa. Harbour improvement is among the projects seriously contemplated by the Japanese. Meanwhile, it is possible that the vivid object lesson furnished by Japan's methods in Formosa may help to teach wisdom to Chinese officialdom. Mr. Gardner says that, were it not for excessive taxation, the Amoy tea districts could compete with Formosa in growing Oolong. Twenty-five years ago, three million dollars was the annual income derived by Fokien from the business of growing tea for foreign markets; today, the income is little more than one-tenth of that sum.

This question of the duties levied by China upon tea has much interest for Japan, apart from the Formosan phase of the problem. There is no doubt that the cheaper grades of Japanese tea would find a considerable market in the north of China were not the duties prohibitive. In the early days of China's tea trade, the tea had to be carried to Canton for firing and packing, with the result that its original price was doubled, approximately. Moreover, the producer obtained a comparatively high price in those times, so that, on the whole, the specific export duty of 2½ Tls. per picul was not very onerous. But when the tea came to be shipped direct from Hankow and other producing centres, the manufacturing charges were largely reduced, and at the same time, the producer's price fell in response to the European markets. The average cost of black tea in northern China being now 15 Tls. per picul, approximately, it is evident that an export duty of 2½ Tls. (S) and *linkin* of 2¼ Tls. (S) represent taxes aggregating 33 per cent. Now Japanese tea sent to China has to pay an import duty of 2⅗ Tls. (S) per picul, together with 1⅗ Tls. *linkin* or 4⅓ Tls. in all, and as the average cost of the tea at the port of shipment is 7 Tls. it results that the taxes levied in China aggregate nearly 59 per cent. If, despite this crushing impost, nearly a hundred thousand *yen* worth of Japanese tea found its way to China last year, we may reasonably assume that were the import duty and other taxes reduced to 5 or 10 per cent; the Japanese leaf would find a considerable market in the neighbouring empire.—*Japan Weekly Mail*, Oct. 17.

THE YATIYANTOTA TEA COMPANY, LIMITED.

At a meeting of the shareholders of the above Company, held on Thursday, 19th November 1896, the following were present:—

Messrs. W. D. Gibbon, in the Chair, A. Thomson and E. S. Anderson (Directors) and Messrs. J. H. Starey and D. Edwards.

The following were represented by their attorneys:—Messrs. C. Young, W. H. G. Duncan, G. W. Carlyon, Mrs. L. T. Carlyon, J. MacLiesh and J. K Morrison.

It was proposed:—"That the Yatiyantota Tea Company, Limited, be wound up voluntarily"—which was carried unanimously.

COFFEE IN GERMAN EAST AFRICA.

The German East African Company in its report on the proceedings of the last twelve months dwells with satisfaction on the coffee plantations at Agnolo and Derema (where girls' schools have been founded, of which the company is not a little proud), inasmuch as, according to some contemporaries, the *Leit motive* of German colonisation is the spread of civilisation. *Revenous à nos moutons*, or rather to coffee. The inroads of *Hemileia vastatrix* have been victoriously overcome. There are between 500,000 to 600,000 coffee trees in excellent health. The yield of berries during the last year has been 700 cwt. The first quality of coffee fetched 1 mk. 10 pf. on the Hamburg market, and as about 100,000 young trees will come to maturity this year a larger yield is confidently anticipated in 1897. Mr. Rowehl, overseer, as yet has chiefly planted Arabian coffee. Liberia coffee trees are principally flourishing at Langula, where the high ground suits them.

Tea plantations are likewise prospering at Derema, but it is too soon to judge of the quantity of the leaf, though the trees look healthy. Should these tea plantations prove a success, the company consider that Chinese and Soudanese coolies will be indispensable for the delicate manipulation of the leaves, to which Europeans have not been trained. It is hoped in Berlin that the German Government will give its assistance to the procuring of coolies from the East. Meanwhile the Wanyamwezis and Wafykumas have proved excellent labourers, and are so pleased with the work they propose transporting the Smalahs (wives and children) to the vicinity of the tea plantations. Cocoa culture does not thrive at Derema because the ground lies too high, whereas it prospers over a surface of 3,600 hectares along the coast between Mnoa and Jasstac. Sea breezes favour the health of the trees.—*Central African Planter*, Sept. 15.

THE RAMIE SYNDICATE.

The *Textile Industries and Journal of Fabrics* says:—

The treatment of the Rhea or Ramie fibre is at present receiving a great amount of attention, and many inventors are attempting to perfect systems by which they hope to gain the immense returns that are certain to be the reward of the one who brings forward the process which proves itself a perfect commercial success. This Journal has paid no small amount of attention to the question of Rhea, and, during the past few years, much interesting information on the subject has been given in its pages. One invention after another has been fully described, and, as recently as July, we gave particulars of two processes which are considered to have a favourable chance of being crowned with success. Another system has been brought prominently before the public, namely that of Mr. Taylor Burrows and Mr. D. Edwards-Radclyffe. This being worked by the Ramie Syndicate, who after exhaustive experiments, have commenced a factory at Hythe End Mill, Staines, near Windsor. This factory is furnished with a complete plant for the treatment of Rhea, from the decorticating of the stems to the spinning of the yarns. There are already between thirty and forty hands employed, and the Syndicate hopes before long to greatly increase this number. The factory premises can be extended as the success of the enterprize may call for additions, and, we understand, that, already, largely increased power has been rendered indispensable.

Prominence has been given to the Ramie question by a meeting of members of the press, which took place at the Syndicate's works a day or two ago when the whole process was seen in operation. We are informed that the company is executing orders for such quantities as have never before been attempted. The largest consignments are, however, being made for canvas manufacture, also for sail cloths, fishing-lines, and similar purposes, but many good orders have been given for the better classes of fabrics, such as for lace, dress materials, hosiery, cloths of various kinds, velvets, and similar fabrics, and also for tapes and boot laces. Some of the Bradford, Manchester, and Glasgow firms are already employing the Rhea manufactured by this Syndicate in their works. The great strength of the fibre appears to attract manufacturers, and, where a proper chemical treatment is afforded, time has no weakening effect upon the material. But this is a great point —it is a very easy matter to remove the gum and bleach the fibre, but whether or not its strength has been deteriorated, time alone can, in many cases, determine. Should this process possess all the advantages claimed for it, manufacturers will find other attractions in Rhea, apart from its strength, as its silky nature and its suitability for a variety of high-class fabrics is well-known. When once the proper method of utilizing Rhea has been clearly demonstrated, there will be no end to its uses, and so easily is it cultivated in all sub-tropical countries that, given the demand, the supply may be always ready.

The plant which the Ramie Syndicate has at work includes decorticating, boiling and softening, preparing, combing, and spinning machinery, so that the whole process is gone through at the works. We give an illustration of the decorticating machine in Fig. 1, which turns out as much work as fifty men can do by hand labour. It would therefore pay planters to have such machines in their fields, as the treatment on the spot would be of great advantage to them, whether compared with decorticating by hand labour or exporting the Rhea in stems. Very little need be said in reference to this machine. It is simple in construction and effective in its operation, the stems being fed in at one end and returned as fibre, whilst no skilled labour is required, two boys being able to attend to it. It is portable, and can be worked by steam, water, or animal power, so that it is very suitable for dealing with the stems where grown. The next process to the decorticating is the boiling, which takes place in a large square tank, heated from underneath by an ordinary furnace. The tank contains perforated, rotating cylinders, into which the material is put, and kept continually on the move. The process takes about three hours to accomplish, and the fibre is then placed in the bleaching tank, where a secret chemical process adapts it for further mechanical treatment. The bleaching is described as having no deleterious effect upon the material, as is the case where high pressure steaming is adopted, or where caustic soda is employed, but the gum is thoroughly extracted.

The next machine, shown in Fig. 2, combines the purposes of a wringer, separator, and softener. This requires but little description as the illustration easily explains itself. Its main feature consists of a number of fluted rollers, between which the material is passed. The drawing machine, Fig. 3, is worthy of attention, as the fibres are evenly drawn, without waste, into a sliver, to be treated on the combing and spinning machinery. A travelling apron, A, is mounted on rollers, B and B1. On this the fibre is placed in parallel order. The apron rotates towards the machine. There is a roller, B, and another, C, placed over B, both of which are fluted. The latter acts as a pressure roller, so that a firm grip upon the fibre is secured. Next is another apron, mounted on rollers, F1 and F. The roller, F1, is placed in contact with, but a little lower than, that marked B. The other roller, F, has another one, G, and another, J, below it. These latter are also fluted, the former acting as a pressure roller. The speed of these is greater than that of the first pair of rollers, so that the proper drawing action may be afforded, in order to bring the fibres parallel. A feed sheet, I, passes round a roller, J, and carries the fibres to the last pair of roller, K and L, and, after passing between these, goes forward under a large lapping drum, M, and over other rollers, J1, and J2, and back to the roller, J, near the second apron. There are springs and levers to keep top and bottom rollers in contact. The fibre to be treated is wet and is kept in this condition during the operation of drawing, which, by this means, is more easily accomplished. The fibres therefore pass from the first pair of rollers, B C, to the second pair, F G, and the drawing is repeated through the third pair, K and L, when the fibres are thoroughly drawn out, and appeared in the form of an even sliver. This may be wound on a cylinder, M, or run into a sliver can, or disposed of in any suitable manner, as it leaves the machine.

Numerous modifications have been made in the combing, spinning, and other machines employed, and so effectively can Rhea filasse be treated that, if put into work one day, the yarn can be delivered the next. By the complete machinery which the Syndicate has at work, the fibre can be prepared for any branch of the textile trades—woollen, cotton, linen, or silk. The present price of Rhea is about £15 per ton, but, when a good demand is established, it is considered that the price will come as low as £6 per ton, but even at the higher rate, we understand that, by this process, filasse and prepared sliver can be produced at from 2½d. to 9d. per pound, which will realize from 1s. 6d. to 5s. per pound in the market, according to the purpose for which it is produced.

THERE IS NO REASON WHY RHEA FIBRE SHOULD NOT COMPETE WITH COTTON.—If only planters will keep it up, the area for growing is enormous, and the price could be reduced lower than cotton, and still pay the planters enormous profits. The official report from Mexico, where it is being taken up by the Minister of Public Works, although there they are under the disadvantage of stripping the ribbons by hand labour, says the profit shows 145 per cent. on the working capital. Now with decorticators, this profit would be increased, and if the planters will go one step further, and ungum it whilst green, not only will a still superior quality of fibre be produced, but the filasse will command a higher price. The report adds "all scientific authorities

agree in declaring the Ramio fibre to be superior to any other fibre in length, strength, and beauty, as it is fine, silky, and brilliant." When Ramie is once planted, it lasts from 16 to 18 years before it requires replanting. It merely needs ordinary attention, such as keeping the land clean and similar attentions. It crops three to four times a year and pays for manuring. Particulars as to seed, cultivation, &c., can be had of Mr. D. Edwards-Radclyffe, 56, Gloucester Crescent, Regents Park, London, N.W.

We shall be glad to see this or some similar process prove a great commercial success, as the solution of the proper utilization of Rhea fibre must be accomplished sooner or later, and the inventors who succeed in this will not only have the approval of the whole textile community, but will also reap a large reward for their labours.

NEWS FROM BRITISH CENTRAL AFRICA.

Employers of labour, or persons recruiting labourers in the Central Angoniland District, are requested in all cases to pass any labourers whom they may recruit in such district before the Collector for Central Angoniland before leaving the district.

It has been found that the Central Angoniland natives, who have only comparatively recently come directly under European influence, have not in many cases understood thoroughly the terms which have been proposed to them for service in the Shire Highlands. When these men are passed before the Collector for their own district everything can be made distinct and clear to them by him, and all future misunderstandings provided against.

Mr. R. E. Codrington, the Collector for the district, is willing to take steps for the forwarding of parties of men to employers who may require them.

If, however, labourers are taken out of the district and not passed until they arrive at their destination, so many misunderstandings have arisen that it may be found necessary to limit recruiting in this district.

H. M. Acting Commissioner therefore trusts that employers of labour will follow the course now laid down.

(Signed) ALFRED SHARPE, H. M. Acting Commissioner and Consl.-General.

Zomba, 9th September, 1896.

—*British Central Africa Gazette.*

TEA SEED OIL.

A Ceylon subscriber, Mr. O. Collett, has kindly sent us the following for publication, with a note however that he thinks it very unlikely, as we do, that it would pay anyone to grow tea-seed instead of tea-leaves. Nevertheless, as a bye-product, tea-seed oil may in the near future be no inconsiderable factor in estate profits:—

CITY ANALYST'S OFFICE, 56, KOLLUPITIYA ROAD,
COLOMBO, 20th April 1896.

Examination of a sample of tea-seed oil, received on the 16th instant, from M. O. Collett, Binoya Estate, Watawala.

The oil was clear, of a golden yellow colour, its specific gravity at 90° F. was 9,125, distilled water at the same temperature being taken as unity. At this temperature, olive oil, with which the sample was compared, had a specific gravity of 90,901. The comparison was made with olive oil, as it is considered the best lubricant amongst the vegetable oils. The oil had the reactions of a non-drying oil.

The viscosity of the oil at 90° F., the temperature of the air at the time at which the experiments were made, was slightly less than that of olive oil. A measured quantity of the oil took 1 minute 8 seconds to run through a small orifice, as compared with olive oil, which took 1 minute 10 seconds. The oil gets gradually thicker as it is cooled, but retains its transparency at 34° F., at which temperature it can still be poured, although sluggishly.

With regard to the lubricating properties of the oil, I tested the same on a jinricksha wheel. When the axle was lubricated with this oil, and the wheel set in motion, it continued to revolve for 1 minute 23 seconds. When olive oil was used, and the impetus given was as nearly as I could judge the same, the wheel revolved for exactly the same length of time. When lard was used, the wheel revolved for 1 minute 42 seconds. Freedom from free acids is an important point in favour of a lubricating oil. In this respect the oil compared very favourably with the sample of olive oil with which I compared it ; but it should be stated that by long keeping olive oil develops free fatty acids. The olive oil I used was from a newly-opened bottle of J. T. Morton's fine sublime olive oil, but of course, it might have been long in stock. The oil was also compared, with respect to free acids, with coconut oil; the latter was found to contain about one-third more. The oil is prized in Japan as a lubricant, and the result of my experiments goes to confirm this good opinion.

As regards its burning qualities, I made a rough test, which showed it to be quite equal to coconut oil at the temperature of Colombo as regards its illuminating effect.

I understand that the oil has been found quite suitable for the manufacture of soap, but I have made no experiments in this direction, as I fancy that in the matter of price, the oil could not compete with other soap-making materials.

(Signed) M. COCHRAN, F.C.S., City Analyst.

—*Planting Opinion*, Oct. 10.

AGRICULTURE IN THE AUSTRALIAN COLONIES.—We have to hand an interesting and exhaustive report by Messrs. Halse and Viner who were commissioned by the Department of the Cape of Good Hope to report upon the agriculture of the Australian colonies, and specially on wheat growing. We were always ready to admit that the Agricultural Departments of the Australian colonies were admirably worked, and the report to hand only tends to confirm us is this belief. We cannot too highly commend the liberality of the Government in voting large sums for the encouragement of agriculture. The Agricultural Department of Victoria has been allowed the following votes :—

For the importation of new varieties of seeds and plants	£3,000
For supply instruction in connection with the introduction of new vegetable products and improvement of existing agricultural methods	£43,000
For the introduction of new machinery and appliances to perfect the treatment of new agricultural products and to improve present agricultural methods and for prizes for the new inventions in general agricultural appliances	£4,000
For publishing agriculture reports in connection with educational work ...	£11,000

These are only some instances of what the Government is doing for the agricultural advancement of the colony, for which we note that an aggregate annual vote of no less than £272,253 is supplied to the agriculture department. Our officials might well stare aghast at these figures after their experience of the parsimonious agricultural policy of the local Government. It is high time that some properly organized scheme for the agricultural advancement of this colony came to be seriously considered.

VEGETABLE GARDENING IN CEYLON.

The growing of vegetables of European *habitat* has long been successfully followed upon many of our upcountry estates, and at higher elevations, such as that of Nuwara Eliya, their cultivation has become quite a large and paying industry. Kandy and Colombo may both be said to be supplied with these luxuries in sufficient quantity to meet the demand, though this last would receive great extension were the prices somewhat reduced. But there are many localities wherein Europeans reside in this island where no supplies of the kind are available, and where no effort is made to meet the deficiency by local cultivation. We apprehend that the omission is largely due to want of knowledge as to what is practicable as to this, and many residents in lowcountry outstations would probably be glad to be able to vary their dietary did they know that the growth of many kinds of European vegetable may be accomplished by care, even under the drying heat of low elevations, by a plentiful supply of water, and judiciously applied artificial shading. The late Mr. P. A. Dyke, when Government Agent of the Northern Province, made persistent effort in this direction, securing a large amount of success. With that liberality that so distinguished him, he almost daily distributed the products of his vegetable garden among his European neighbours, and the arrival of his messengers with the baskets of varied supplies was always warmly welcomed and appreciated. What Mr. Dyke did on a large scale it would be perfectly possible to accomplish on a more restricted one, and many housekeepers, both male and female, would find themselves to be well repaid by the practice of an interesting occupation. Perhaps the vegetable with which Mr. Dyke was most successful was the delicious knolkohl, a species of German turnip little if at all known to residents in England. But with carrots, beans, and several other vegetables, Mr. Dyke was equally successful. What he succeeded in doing in the dry and arid climate of Jaffna we feel sure could be even more readily accomplished in a great number of lowcountry localities. Unfortunately we are not ourselves able to describe the *modus operandi* followed by the former able agent of the Northern Province. But there must, we should say, be still many residents of the northern capital who could supply the information with a sufficiency of detail. With some care exercised, and at but relatively trifling cost, an occupation could be secured by many otherwise unemployed wives who would feel a natural pride in adding the luxury of European vegetables to their daily *ménus*.

NOTES FROM THE METROPOLIS.

London, Nov. 2.

Is

COFFEE

to be overproduced like everything else, may well now be the question ? ! On the head of the news of what is doing in East Java, the Malayan Peninsula, East Africa, Costa Rica and in Brazil itself to make up for the deficiency caused by the collapse in Ceylon, Southern India and old Javá, there now comes the report from two or three quarters, that Brazil itself is giving this year the largest coffee crop it has ever produced. But this is not all : here is the paragraph which appears in this week's issue of the *Society of Arts Journal* and which (if further verified) may eventuate in a "rush" of capitalist-planters to the Congo region :—

Coffee in the Congo.—M. Laurent, Professor of the Agricultural Institute of Gembloux, entrusted by the independent State with a mission to the Congo, has just published a report upon the results of his travels, in which he says that the Congo will, in some years to come, be as important a coffee-growing country as Brazil is at the present time. The coffee tree will find in the great equatorial forest the conditions of soil and climate that are the best suited for it. It grows there in a wild state, and there are three descriptions known, two of which yield excellent results. According to the information M. Laurent has obtained at Bosoko and Caquilhatville, the preparations of the ground for coffee plantations would require native labour, which could be obtained at a cost of about £10 per hectare (2·47 acres).

I have applied to M. Laurent for a copy of his report referred to above, in order to review it in the *Tropical Agriculturist* for the information of planters and capitalists. It will be interesting to see what extent of "wild coffee" has been seen or explored by M. Laurent or his informants.

I see that Mr. T. C. Anderson's

GARTMORE GROUP OF ESTATES

to be offered by auction in Mincing Lane on 26th November by Messrs. Gow, Wilson & Stanton, comprise Gartmore, Larchfield and Bevys estates, most compactly situated in one block, 490 acres of tea and 143 of forest—truly a valuable property.

Port of Spain (Trinidad) papers have been specially sent to me with articles marked, reviewing

MR. ARTHUR SINCLAIR'S

chatty clever volume, "In Tropical Lands," issued in 1895. The book seems only to have reached Port of Spain and to have created a mild sensation, judging by the criticism, although I can discover no substantial grounds for the complaints hinted at, rather than openly formulated, against the author. For instance, one paper gives some columns of extracts prefaced by the following sentences ; but nowhere can we find in it what the "palpable misrepresentations" may be :—

In Tropical Lands by Arthur Sinclair, 1895.—The following extracts taken from one of the latest additions to the Public Library will arouse feelings of astonishments owing to the number of palpable misrepresentations with which the book teems. The sources from which such travellers obtain their information will require to be looked into, and we will probably have some remarks to offer in a future issue.

In another paper, however, we have a full editorial critique with some strong language, but calculated, I should say, to amuse rather than annoy the author who is placed in such company as J. A. Froude—"the worst offender of all" against Trinidad. Here is, however, the article in full, to prevent our Trinidad neighbours thinking it need be in any way burked :—

MR. SINCLAIR'S BOOK.

Mr. Arthur Sinclair is by no means the first and we fear will not be the last of the writers who, after paying a visit sometimes of a few weeks, but oftener of a few days, to Trinidad, do not hesitate to issue "for general information," their impressions of a country and a people of both of which they are absolutely ignorant. Without going back to the earlier writers who have sinned in this way, we will instance James Anthony Froude, the worst offender of all, who stated the principal crops the Island to be indigo and coffee, adding that there are still some larger sugar estates and that as the owners had not succeeded in making the negroes work for them they had introduced "*a few thousand coolies under indenture for five years.*" With characteristic inaccuracy he also described the Island as having been "alternately French and Spanish until captured by Picton in

1797," the fact being that it had never for a day been under any flag but that of Spain and that it was not captured by Picton, but by Abercromby on whose staff the former was serving at the time, Such mistakes as these were nothing to the most unscrupulous perverter of history of modern days. We will however leave Mr. Froude and turn to his most recent follower.

Mr. Sinclair does not seem to have been at all favourably impressed with our chief Town for he writes:

"Port-of-Spain will hold its own with any city in the world for the rankness of its smells and the viciousness of its mosquitoes."

With regard to the latter, as far as our own rather extended experience goes, the mosquito exhibits a wonderful similarity of viciousness wherever he exists. We have never yet met a tame one and although the poet tells us that education—"Emollit mores nec sinit esse feros." We do not think the experiment has ever been tried on these wretched little pests who are neither better nor worse in Port-of-Spain than elsewhere. With regard to smells, although we cannot deny that they are sometimes rather too pronounced, yet this is common enough in all sea port Towns standing on a low level, and those who have experienced the odours which assail the nostrils in Cologne, Constantinople, the Bazaars of any Indian Town, or even in the purlieus of the East London Docks, will scarcely think Mr. Sinclair's verdict a fair one. In his next paragraph our author gives the first instance of the very superficial knowledge he contrived to acquire of the country he has undertaken to describe. He alludes in it, and in other places also to the "Tamil Coolie" in a manner showing that he is under the impression that the greater portion if not the whole of our Asiatic population comes from Southern India whereas as a fact we are sure we are well within the mark in saying that not one per cent of it is Tamil. There has been no importation of Madrassees for over 20 years although a good many have arrived here of their own accord from Martinique. Although Mr. Sinclair grumbles at the smells and mosquitoes he is fair enough to admit that Port-of-Spain is one of the most beautiful cities in the West Indies. He has a word of praise for the two principal churches but does not think much of our other buildings. His description of "the best hotel—absurdly called the 'Ice House'—as nothing more or less than a huge drinking bar with a few bedrooms attached," is incorrect even applied to the time when he visited us which seems to have been about five years ago, and would be a gross mistatement now. We wonder if the Messrs Siegert will appreciate his statement delivered *ex cathedra*, that their world renowned Bitters are "made from the bark of small shrub (Galipea trifoliata) belonging to the Rue family"? We imagine that Mr. Sinclair obtained that information from the same person who told him that the old Governor's residence was burned down some years ago, for one is as correct as the other. After some complimentary remarks on Mr. Hart, and praise of the Botanic Gardens, followed by an extract from Charles Kingsley's "At Last," we come to one of the strangest parts of Mr. Sinclair's description of his experiences of Trinidad. He mentions no names but we can see that the valley alluded to is that of Maraval, although it is somewhat difficult to recognise.

"A lovely ride, past the reservoir" is clear enough, but "for some miles through abandoned sugar estates is puzzling. "A pretty little bungalow on a knoll," may be recognised, and we know of "good natured Irishmen," who would "provide a good dinner, but we are at a loss to locate any decent house where the following incident could have occurred.

"As the hot night advanced the smells increased till sleep was out of the question........Daylight at length came to our relief, when a search revealed the fact that a dead hen lay beneath the bed and a dead dog on the doorstep—both supposed to have been bitten by snakes."

The description of the St. Antonio Cacao Estate and of the Sta Cruz Valley is accurate enough and is pleasant reading, but the late Sir Joseph Needham would not have liked to be told, nor do we think it will please our living planters to hear, "that there is no attempt at cultivation." We think also that Mr. Sinclair should have abstained from quoting Mr. Hart's views on the planters of Trinidad. Mr. Sinclair ends by saying:—

"We left the Island of Trinidad—beautiful as it unquestionably is—without much regret. The climate is evidently perfect for the cacao tree, but for the average Briton so enervating that, as Froude found there is a constant 'Craving for cock-tails,' and the viciousness of the mosquitoes shows that there is something very far wrong with the sanitation. Moreover the Spanish element is still too strong to be pleasant for a free-born Briton. After all the best man in Trinidad, and the hope of the future, is the so-called Tamil 'coolie.' Why coolie.' I cannot conceive."

We can only say that we close our remarks on Mr. Sinclair and his book with an equal absence of regret. If Trinidad has too much of the Spanish element to be agreeable to him as a freeborn (there is a strong flavour of music-hall patriotism about this phrase) his book is far too full of bigotry, prejudice and intolerance to be pleasant reading to those who believe that whilst to be a British subject is a great privilege, to be British born is not an essential for salvation, either in this world or the next. In the first portion of his work, which treats of his travels in Peru, the author spoils an otherwise most interesting narrative, by sneers in the worst possible taste, at the Roman Catholic Religion and its ministers, and in the part treating of Trinidad he endeavours to create a bad impression as to the value of the island and the intelligence of its planters. As to the third part, knowing nothing of Ceylon we cannot judge of its merits.

Mr. Sinclair is evidently a man of considerable powers of observation and we doubt not is an able botanist, but outside of his professional qualifications his chief attributes seem to be narrow-minded bigotry and intolerance.

Now, it is evident that the critic is hard up for complaint when in the forefront he places the extremely trivial slip—if slip it be—that to General Abercromby rather than to his lieutenant, the gallant Picton (who no doubt did the business) should be attributed the capture of Trinidad a hundred years ago! There is really nothing else to notice in the criticism calculated to provoke more than a smile over the touchiness of the editor who winds up by praising Mr. Sinclair's ability as botanist and observer, but condemns his "narrow-minded bigotry and intolerance"—a charge, which, of course, is made in ignorance of the fact that the gentleman referred to, a Scottish Episcopalian in his bringing-up and choice, is well-known as one of the broadest and most liberal of Churchmen, the friend of all schools and sects, not excluding even the Roman Catholic priests and dignitaries of twenty years ago in Ceylon. One result of the writing at Port of Spain and its republication should be an increased demand both there and here for the volume with its well-written descriptions, lively though by no means ill-natured observations, and really valuable botanical and planting information.

THE INDIAN AND CEYLON EXHIBITION at Earl's Court closed a few days ago, and the lent articles have been duly returned. For 1897 season, we read:—

At Earl's Court next year there will be the Victorian Era Exhibition, which will show the progress made during the past sixty years in commercial and industrial pursuits, economic and scientific interests, music and the drama, sports, pastimes and recreations; while an important section will be devoted to women's work. No industrial exhibits will be accepted which do not emanate from the United Kingdom.

PARITCULARS OF DEBENTURES OF CEYLON TEA COMPANIES.

	Per cent.	Debs. £	Interest payable.
Alliance Tea Co ..	6	36,000..	Jan. & July *a*
Bandarapolla Tea Co. ..	5	9,000..	,, *b*
Battagalla Estate Co. ..	5	4,000..	,, *c*
Burnside Tea Co. of Ceylon ..	5	15,000..	*d*
Caledonian (Ceylon) Tea Plantation Ltd. ..	6	15,000..	Jan. & Dec. *e*
Carolina Tea Co. ..	7	35,000..	Jan. & July *f*
Ceylon Land and Produce ..	4½ / 5	28,760..	,, *g*
Consolidated Estate ..	6	42,200..	,, *h*
Ceylon & Oriental Ests.	4½	65,000..	*i*
Duckwari Tea Plantations ..	6	6,000..	June & Dec. *j*
Eastern Produce & Ests.	4½	122,500 .	*k*
Galaha Tea Estates and Agency Co. ..	5	55,000..	*l*
Goomera Estate Co. ..	6	4,000..	December *m*
Haputale Co. ...	5	7,700..	*j*
Kelani Valley Tea Association ..	5	13,450..	Jan. & July *k*
,, ..	6	250..	,, *l*
Kellie Tea Plantation ..	5	8,500..	*j*
Madulsima Coffeo & Cinchona Co. ..	5	10,500..	
Nuwara Eliya Tea Ests.	6	30,000..	Jan. & July
Nahalma Estate Co. ..	6	10,000..	,, *m*
Oriental Estates Co. ..	6	15,000..	Aprl. & Oct. *n*
,, ..	4½	17,400..	
Poonagalla Valley Ceylon Company ..	6	12,500..	Jan. & July *n*
Rangalla Tea Estates, Limited ..	6	20,000..	*o*.
Scottish Trust and Loan Company ..		6,900..	*p*.
Sunnygama Tea Co. ..	6	10,000..	Jan. & July *q*
United Planters of Ceylon	5	68,950..	,, *r*

MITCHELL & GRANT, 101, Leadenhall Street,
Oct. 1896. London, E.C.

a Redeemable at par. 1905. *b* Redeemable 1st Jan. 1899 at par. *c* In private hands. *d* Redeemable 31st Dec. 1901 at par. *e* Redeemable at par. at various dates. *f* Redeemable at £120 at discretion of Directors. *g* Issued for terms of years. *h* Redeemable by drawings 5 p.c. per annum at £103. *i* Redeemable after 10 years at £105 at discretion of Directors or after 20 years at par. *j* Held privately. *k* Redeemable by minimum drawings of £7,500 on 31st Dec. at £105. *l* Redeemable 1916, but after 1906 redeemable with bonus, 5 p.c. *m* Redeemable 1905. *j* Held privately. *k* Redeemable at various dates. *l* Redeemable at par. at short dates. *j* Held privately. *m* Redeemable at option of Directors at £105 after 31st December 1897, tenure 16 years. *n* Repayable at par. 1920, bht after 1st Oct. 1904, on 12 months' notice at par. and 3 p.c. will be paid on those paid off 1st Oct. 1905. *n* Redeemable 21st Dec., 1900. *o* Redeemable 1913, but after 1903 may be redeemed at £105. *p* Repaid as they mature. *q* Preference Stock authorised to redeem debentures 15th July, 1897. *r* No information.

MARKET FOR TEA SHARES.

[FROM OUR SPECIAL CORRESPONDENT.]

THURSDAY EVENING, November 5, 1896.

Business in Indian Tea Companies' shares, though interfered with a little by the sympathetic influence of the uncertainty pending the American Presidential election, has continued steady throughout the week, and strong investment buying still goes on. Some of the best-reputed stocks have, moreover, risen to quite *record* prices.

The *Bullionist* of last Saturday (October 31) published an interesting and intelligent article on the Preference Shares of Indian Tea Companies.

Their article confines its attention to those shares which still yield approximately 4½ per cent., that is among the officially quoted stocks.

It may be noted that Jokai Prefs., and Dooars Company's Prefs., as well as those of the Ceylon T. P. Company, cannot now be purchased to pay more than about 3¾ per cent.

Mincing Lane seems to have now in a great measure recovered from the position of weakness chronicled during the past few weeks, and the tendency is now again rather upwards.

Reports from India indicate the prospect of the later teas showing better quality than characterises those now being sold under the hammer here.—*H. & C. Mail.*

THE FERTILITY OF THE SOIL.

In a recent article dealing with the formation of the soil, the various agencies at work in this highly important operation were enumerated and described. It was pointed out that while geology gave us a valuable indication of what the nature of the soil was likely to be, it could furnish little information on the subject of soil fertility. To study this subject, which is surrounded with much difficulty, we must have recourse to other sciences, more especially agricultural chemistry, and, as the latest researches have shown, to bacteriology. At first sight the subject seems much simpler than in reality it is. We are inclined to think that all that is required is a knowledge of the soil's composition. No doubt such knowledge is by itself of very geat value, but it is insufficient to solve the problem. For one reason, there are properties in a soil which exert a very important influence on its fertility. These are known as its mechanical or physical properties, and include the state of division of its particles, its porosity, and its heats and water absorbing powers, &c. There are also factors, other than those mentioned, which have a most important influence on fertility, which, however, we need not concern ourselves with in this place. These are climate, altitude, exposure, and the nature of the season. The significance of these is undoubtedly enormous, the influence of the last named being probably more potent than that of any other. But valuable as the study of the nature of such influences is, it is not likely to lead to any practical results, since it is still out with the power of man to alter in any way the climate of a country or the nature of the season; whereas the study of the composition and properties of the soil is likely to furnish us with knowledge we may turn to a practical account.

When we come to study the composition of the soil we are met by unexpected difficulties. In the first place, it is not sufficient to know of what substances it is formed, but, further, what are the exact forms in which certain of these substances are present. This is a problem which chemistry is still unable to solve satisfactorily. The question is further complicated by the fact that the soil is not a substance of stable—*i.e.*, unalterable—composition, but is constantly undergoing a process of change. Indeed, it may not inaptly be likened to a gigantic chemical laboratory, in which the most varied operations are constantly taking place, and in which chemical changes of a most involved and subtle character are being effected. Another reason of the difficulty of the problem is to be found in the unsuspected world of minute life with which the soil is teeming, which play a most important part in the promotion of vegetable growth, and which are ever busily engaged in preparing and elaborating for their use food materials which the crops of the field require. As we know but little of the nature of these chemical changes, and of the conditions under which the microbic denizens of the soil carry out their important functions, it will be at once seen how it is that such ignorance should hamper us in our study of the important problem of the fertility of the soil.

That the soil plays an important part in ministering to the growth of the plant has always been recognised, although many and erroneous have been the opinions in the past held with regard to what that part is. We need only notice the famous theory associated with the name of Jethro Tull—a theory which exercised such an important influence on the development of modern agriculture. Tull, who was a farmer in Berkshire, was led to conclude from hi sobservation of the great benefit which followed the application of very through cultivation of the soil—such as is pursued in the case of the culture of the vine grape—that the food of the plant was derived exclusively from the soil. He consequently set himself to advocate what he termed "horse-hoe husbandry," a system of husbandry which he was of the opinion shoull facilitate to a very great extent the assimilation by the plant's roots of this food. The crops of the field, according to him, should be shown in rows or ridges, wide enough apart to admit of the thorough tillage of the intervals by ploughing and by hoeing. The custom of applying farmyard manure, so old and approved a practice, owed its success, he held, to the fact that in its fermentation it helped in the pulverisation of the soil. A thorough system of tillage consequently obviated the necessity of the application of manures

With the great advance in our chemical knowledge which took place at the close of last century, truer ideas began to prevail on the subject of the part played by the soil in supporting plant growth. Owing to the researches of such men as Priestly, Bonnet, Ingenhousz, and others, the source of the largest organic constituent of the plant—viz., carbon—was traced to the atmosphere; while the source of hydrogen and oxygen gradually came to be recognised as water. Attention, therefore, came to be centred in the mineral or ash portion of the plant; and this was shown by the Swiss investigator, De Saussure, in an investigation published at the beginning of the century, to come from the soil. Sir Humphrey Davy devoted much attention to the relation of the soil to the plant, and generally the question of what constitutes fertility in a soil. He studied what we have already referred to as its physical or mechanical properties, and showed what an important bearing these had on the question of fertility. He may be said, however, to have rather overrated the influence of such properties. Moreover, he scarcely recognised at all that the plant drew a certain proportion of its food from the soil. In his view the chief function of the soil was simply to act as the mechanical support of the plant. For a considerable number of years little progress was made in elucidating the true relations between the soil and the plant, and it is not till nearly the middle of the present century that any important advance has to be chronicled. At that time widespread interest in the subject was aroused by the publication of Baron Liebig's works, the first of which appeared in 1840 in the form of an address to the British Association, By the promulgation of his famous "mineral theory" he drew the attention of the agricultural community for the first time to the really important functions discharged by the soil in plant growth. He re-stated the doctrine, taught by De Saussure, that the plant drew the mineral matter which it contained from the soil. He also recognised that the plant derived its nitrogen to a large extent also from this source, but this element he considered was derived from the air in the form of the ammonia which was washed down by the rain in sufficiently large quantities to supply the needs of plants. Liebig's teaching was of the highest value, as it drew attention to the need of restoring to the soil the mineral ingredients, phosphoric acid and potash, the two substances among mineral plant foods which are alone generally present in deficient amount, and which for this reason regulate to a large extent the rate of plant growth. In this way he may be said to have been instrumental in starting the practice of artificial manuring, a practice which has done so much to revolutionise modern agriculture. He also discovered what has proved to be a fact of enormous importance for modern agriculture—viz., the action of sulphuric acid on phosphate of lime in rendering it more, speedily available to the plant as food.

Liebig's work has been carried on and developed by a large number of investigators, among whom may be specially mentioned Sir John B. Lawes and Sir J. Henry Gilbert, who for a period of more than fifty years have devoted their lives to the elucidation of many problems in agricultural chemistry, and chiefly to the investigation of the questions of the relation of the soil to the plant and the action of fertilisers.

During the last thirty years the amount of attention devoted to the subject of the fertility of soils has steadily increased. These years have seen the growth and development of large numbers of agricultural research stations, where the nature and functions of the soil has formed the chief subject of research. The earliest of such institutions was that at Bechelbronn, in Alsace, where the distinguished French agricultural chemist, Boussingault, devoted himself to the question of investigating problems connected with the growth of the commoner agricultural crops. But the most magnificent example of a research station of this kind is that furnished by Rothamsted. This research station was started more than fifty years ago, and has been maintained ever since, at his own private expense, by Sir John B. Lawes, Bart. The name of this famous research station is familiar to everyone who takes any interest in the scientific aspect of agriculture; and the example of scientific collaboration furnished by the work of Sir John Lawes and his colleague, Sir J. Henry Gilbert, is quite unique in respect of the length of time over which it has extended.

On the continent and in America there are a large number of those agricultural experiment stations, where the study of the soil is made the chief subject of investigation. The properties of a soil which influence the growth of vegetation upon it may be grouped under three classes. The most obvious function of the soil is to furnish the plant with mechanical support, and to maintain it in an upright position. It must, at the same time, be of such a nature that the plant's roots can draw from it the moisture, nourishment, and air which they require for their proper growth. If, therefore, it is to successfully perform this function, it must possess certain mechanical or physical properties, as they have been called, among the most important of which are a certain porosity, and a capacity for absorbing water and heat. Porosity is of importance for several reasons. It is only in a porous soil that the necessary supply of air reaches the plant's roots. On soils where this is not the case, as in water-logged soils, for example, vegetation cannot flourish—at any rate vegetation of a high type. Again, porosity is of importance as it enables the plant's roots to push their way downwards in the soil. Too great compactness in the soil prevents growth, since it limits the spread of the roots. The more deeply rooted and the wider the area over which the roots of a plant extend the better able is such a plant to draw its nourishf ment from the soil, and withstand the action os drought by obtaining its water from the lower layere of the soil. A still further reason of the importanec of porosity is connected with the micro-organit life of the soil, since for the proper developmenof these numerous microbes, many of which dis, charge important functions in preparing plant food, a supply of air is a necessary condition, Lastly the rate of decomposition of the material of the soil—inorganic as well as organic—depends largely on the access of the air to the soil pores. Not less important are the powers possessed by the soil of absorbing and retaining water and heat. These powers are necessary for fertility, since the fertile soil must be able to absorb and store up water and heat against periods of drought and cold. The conditions which influence these properties are the stat

of division of the soil particles and the nature of the soil itself. Everyone is aware how parched sandy soils become in dry weather, and how well clay soils are enabled to withstand long periods of drought. Among the influences which affect the heat absorbing power of a soil colour may be said to be one of the most important. A dark soil absorbs more heat than a light-coloured soil. What gives colour to a soil is chiefly the amount of organic matter it contains. Iron, again, is very often the cause of the colour of a soil. Even a small percentage is able to exert an important influence in this respect. Soils containing iron generally have a very red colour. Some idea of the influence the colour of a soil has on its power of absorbing the sun's rays will be obtained from the statement that a difference in temperature amounting to thirteen or fourteen degrees Fahr. has been found to be due to colour alone in soils adjoining one another. There are other sources, of course, from which the soil may derive its heat in addition to the sun's rays. Thus the decay of organic matter, when taking place at all rapidly, engenders much heat.

But, important as the physical properties of a soil are, they only partially explain its fertility. The soil not only acts as a support to the plant and as a medium through which its roots may drink in air and moisture, but it also furnishes the plant with certain necessary food ingredients. What, then, are these food ingredients, and to what extent are they present in most soils? The composition of the soil, as we should naturally expect, includes a large number of different substances, but the greater part of it is made up of only a few bodies. Silica is by far the largest constituent, and is present in an almost pure form as sand, or in combination with alumina, as clay. This latter substance is the constituent which, next to silica, is the most abundant constituent. Together they may be said, as a rule, to form at least four-fifths of the inorganic portion of soils. Very much less in amount is lime. Magnesia is also a constituentof some importance. It may be here pointed out that the physical properties of the soil are influenced almost entirely by the proportion in which organic matter and the above-mentioned ingredients are present. Very striking, more especially on the texture of the soil, is the effect of lime. By its addtion the stiffest of clays may be made friable. A very strange fact with regard to the two largest constituents of the soil is that neither of them is a necessary plant-food. Silica, it is true, is found almost universally present in plants; but the most careful research has failed to show that it is absolutely necessary for plant growth; while, with regard to aluminia, it is not even found in the plant. Lime, magnesia, and iron are, on the other hand, necessary foods; but the same economic importance does not attach to them as does to two other plant-foods—viz., phosphoric acid and potash, and this is for the reason that the three first-named substances are almost invariably present in amounts which, so far as the needs of growing plants are concerned, are abundant; whereas the last named are by no means so plentiful and hence, along with nitrogen, do much to limit the growth of the plant. It has been found that few soils contain phosphoric acid in quantities over two-tenths of a per cent; while the average amount in most fertile soils is probably not more than half this. There are a few soils, it is true, where it occurs more abundantly. Thus in certain very rich Russian soils it has been found to be present to the extent of more than one-half per cent.

But it must not be imagined that the whole of this amount, trifling though it may appear, is in a form in which the plant can at once make use of it. This is not the case. Only a very small trace is present in a condition available for the needs of the plants. How much this is it is very difficult to say, as we do not know any exact method for estimating it. It must be pointed out that is not merely that which is soluble in water which is in a condition available for the plant. There is a certain amount of plant food in the soil which, although not soluble in water, is yet available for the plant's immediate requirements, since it is capable of being dissolved by the acid sap of the plant; and lately an ingenious method has been devised which aims at estimating what this amount of available mineral food really is in the case of phosphoric acid and potash in soils. For this purpose a weak solution of citric acid, 1 per cent. strong, is used. The results as yet obtained by this method show that while the total amount of phosphoric acid in a fairly fertile soil may be as much as between three and four thousand pounds per acre in the surface foot of soil, the amount immediately available for the plant's needs may be considerably less than a tenth of this amount. Similarly with potash, which may be taken in most soils to run as high as 1 per cent, very few soils probably would contain anything like a hundredth of a per cent in the soluble condition. The constant removal, due to drainage and the growth of crops, of phosphoric acid and potash, as well as of that other important plant-food, nitrogen, which is being effected on our cultivated fields, calls for the application of fertilisers if the fertility of our soil is to be maintained. Hence it is that much of our cultivated land is constantly being reinforced in its fertilising constituents by the addition of costly manures. But with the advance of recent science we are beginning to recognise that what is probably the most important condition of fertility of the soil is the presence of countless myriads of microbic life, with which we know every ounce is teeming.—*Scotsman.*

COFFEE-PLANTING IN BRITISH CENTRAL AFRICA.

(From *Chambers's Journal* for October.)

BY MR. H. D. HERD.

Although by the latest arrangement between the British South Africa Company and the Foreign Office with regard to these territories in 1894 the area over which the British protectorate immediately extends has been considerably lessened, there still remains under the direct administration of Her Majesty's Commissioner a country equal in extent to the area of Great Britain.

This country extends from Lake Nyassa on the north to a point on the Shiré River near its confluence with the Zambesi on the south; but the district to which our attention is more particularly directed is that tableland lying between the Shiré on the west and the borders of the protectorate on the east, and perhaps best known as the Shiré Highlands.

Here is the latest home of coffee; and seeing that the country has now passed through its little fever of wars with the Arab slave-traders on its borders, and peace seems to have come to stay, we think that the present position of its staple industry and its future prospects merit a wider publicity in the interests of those to whose enterprise and hardihood the country owes what prosperity it has.

The history of coffee in Nyasaland dates back only to the year 1878, when three small coffee plants from the Edinburgh Botanical Gardens were taken out by Mr. Duncan, then gardener to the Church of Scotland Mission at Blantyre, and planted in the mission garden there. This was done at the energetic representations of Mr. John Buchanan. In the year 1880 the sole survivor of the three plants brought out by Mr. Duncan bore a crop of about one thousand beans. From the distribution of the seed, three years later, may be dated the beginning of coffee-planting on an extensive scale; but in 1881 the first serious attempt to put coffee on the home market, and to gauge its value as a commercial product in competition with other coffees, was made by the late Mr. John Buchanan, of the firm of Buchanan Brothers, whose name is so honourably connected not only with the commercial but the political development of the Shiré Highlands.

A sample of the first crop was sent home for valuation, and was quoted in the London market at eighty-five shillings per hundredweight.

From this time onward the unsettled state of the country made the future of coffee very uncertain, till in 1889 the declaration of a protectorate restored confidence and gave a great impetus to the industry. Messrs Buchanan Brothers opened up large plantations at Zomba, Michiru, and elsewhere, while the African Lakes Company's coffee at Mandala continued to do well. Mr. Brown, of Ceylon experience, settled in the Mlanje district, which had been strongly represented by the late Rev. Robert Cleland as exceptionally well suited for coffee; and Mr. Duncan, having now left the mission, opened up a plantation near Blantyre.

From this point, so rapid has been the progress made, that the late Mr. John Buchanan wrote in *The Central African Planter* for October 1895 that no less than one hundred plantations had been opened up under the respective interests in the country, and that these plantations represented an area of six thousand acres under cultivation. The local revenue rose from nothing to £20,000 per annum in five years.

The services of Mr. Buchanan were recognised by the Government, and he received a C.M.G. in 1890. Much to the regret of every one, he died on his way home for a holiday on 9th March of this year.

Mr. E. C. A. Sharrer is now the largest owner of estates in the protectorate, amounting to about three hundred and sixty-five thousand acres, of which only about nine hundred acres are under coffee. It has been suggested that planters should also turn their attention to cotton-growing. Tobacco and tea have both been introduced.

So extraordinary has the development been during the last few years, that since 1889 the quantity of coffee exported has increased in an almost geometrical progression. The exact figures have been;

	Tons parchment.
1889	5
1890	—
1891	10
1892	—
1893	$42\frac{1}{2}$
1894	74
1895	146
1896 .. .. (estimated)	350

The year 1897 is looked forward to as likely to prove a record year, chiefly because a very large number of plantations come into bearing for the first time in that year; some planters being so sanguine as to put the yield at twelve hundred tons 'parchment'—as the raw coffee is called before the membrane covering the seeds is removed.

The varying degree of success attained have been due to many different causes, arising mostly from experience in trying to reconcile the approved methods of coffee cultivation in Ceylon and India with the conditions of the new country; and partly also from local difficulties, as for instance the labour question, which were unforeseen, and could only be resolved as they presented themselves.

In the early days there was an abundance of local Yao labour, but the supply was irregular and unreliable. Constitutionally indolent, the natives in the immediate neighbourhood of the plantations were soon satiated with calico and other barter goods; and in the wet season, just when labour in the plantations was most needed, there was none to be had, as the villagers had betaken themselves to the hoeing of their own gardens. The necessity for a reliable labour supply being evident, an attempt was made to bring down Atonga labour from the west of Lake Nyasa, which was entirely successful, the new-comers readily engaging to work on the plantations for several months at a time, and this at the most important period of the year, the wet season.

It is hoped that, acting in conjunction with the Portuguese government, the promoters of this scheme may be able very shortly to extend the line all the way to the coast at Chinde.

A further step in advance was made by inducing the Angoni, an offshoot of the Zulus, and long the scourge and terror of the Shire Highlands, to accept work in the dry season on the plantations; and now, instead of coming down in their thousands to devastate the country, they lay aside the shield and spear, and handle the hoe with equal skill. Only last year another large field of labour supply was opened by the subjugation of some disaffected chiefs on the north-eastern slopes of Mlanje. The Walolo, occupying a vast tract of hilly country to the east of Lake Shirwa, had for some little time been venturing down in small companies to work for the Europeans, but by the timely action of Sir Harry Johnston, Her Majesty's Commissioner, against these chiefs, the whole Walolo country has now become accessible to European influence. It is evident that there is every prospect of an abundant labour supply, and in this respect the outlook is very bright.

The chief drawbacks to coffee-planting have hitherto been the labour question mentioned above, and the inadequate and expensive means of transport. The Shire is navigable for the present flotilla of steamers plying upon it as far as Chiromo, three days distant overland from the coffee district. For a very few weeks during the rainy season it is possible to reach Katunga, a point about twenty-eight miles from Blantyre. From the plantations to either of these points the coffee crop is carried in bags on the shoulders of coolies. The risk, inconvenience, and expense attached to this mode of transport have been greatly felt, but even this difficulty is about to be met by the construction of a narrow gauge railway line which will run from Chiromo to Blantyre, passing through or near many of the largest plantations.

The reckless mode of agriculture followed by the natives, by which they clear large tracts of forest land on which to make their gardens, is becoming so serious a question that the expediency of legislation in the matter has been considered. It is well known that deforestation is followed by a decreased rainfall, which reacts not only the coffee crops, but on the health of the European. And where such wholesale clearing has taken place, land which might otherwise have been good for coffee is rendered temporarily useless for want of shade.

Efforts are being made to lessen the various circumstances disadvantageous to coffee by better systems of irrigation, planting of shade trees, and manuring. As showing the enterprise which is so prominent a characteristic of those Central Africa pioneers, it might be stated that during the past year a 'Chamber of Commerce and Ariculture' has been formed, which promises to do much good in securing authoritative and unanimous action on the part of the planters in questions affecting their interests. But perhaps, above all, the *Central African Planter*, started last year and so ably conducted by Mr. R. S. Hynde, F.R.S.G.S., in the planting interests, is an unequivocal sign of a very bright and prosperous future for coffee in Nyasaland.

By the foresight and discretion of Her Majesty's Commissioner, who has given the industry much encouragement and consideration, the danger of introducing the leaf disease so common in Ceylon and India has been averted. No seed is allowed to be introduced into the country, even though sterilised, and although some inconvenience has undoubtedly thereby arisen, the risk justified the stringent measure.

The eyes of Ceylon planters have been for some time turned to Nyasaland, and in 1895 was formed the 'Nyasaland Coffee Company, Ltd.,' with a capital of three hundred thousand rupees. The quality of the coffee has been highly spoken of by the London coffee brokers, and it holds its own with the best Ceylon and Mocha coffees.

The late Mr. John Buchanan estimated that to bring a plantation of say two hundred acres into bearing in the third year would require an expenditure of two thousand to two thousand five hundred pounds (sterling). And he cautioned

planters against allowing the trees to bear too heavily in the maiden crop, as there is a danger of the plant being thereby weakened,

Other estimates put the expenditure at *not more than* ten pounds per acre, or a little over three pounds per acre per annum for three years, and thereafter a large profit. The price of Nyassaland coffee as quoted in the London market for late years has averaged one hundred shillings per hundredweight, but it has reached as high as one hundred and twelve shillings.

Under varying conditions the average yield per acre is somewhat uncertain, but competent judges put it at from three to four hundredweight per acre. Some maiden crops have yielded eight hundredweights—but not without injury to the plants.

Taking four hundredweight as the average, on a plantation of two hundred acres this is equal to forty tons, with a selling price in London of four thousand pounds. From this, of course, must be deducted freights, which will not be less than eleven pounds per ton from the plantation to the market.

In the report on the protectorate by Commissioner Sir Harry Johnston, issued in August last, there is a valuable appendix devoted to the coffee industry, with a map of the southern Shire Highlands devoted to coffee-planting. We learn from it that a survey for the proposed railway connecting Blantyre with Chiromo has been made, that the native population in the Lower Shire district since the suppression of the slave-trade has increased from 1,000 in 1891 to 14 385 in 1896, and that if malarial fever could in some way be eliminated, British Central Africa would be an earthly paradise. The chief bane of British Central Africa according to the Commissioner is that 'accursed spirit whisky.' The exports have doubled during 1895-96, and not a little of this increase is due to ivory and coffee. Sir Harry Johnston entertains great hopes of the development of the negro of Central Africa. At Zomba there is one European headprinter; all the other printers are natives, who have been either locally trained at the missions or by the head-printer. The Commissioner has also an encouraging report regarding mission work in British Central Africa, and special mention is made of the work of Dr. Laws and others at Bandawe, concluding 'that it has only to tell the plain truth and nothing but the truth to secure sympathy and support.'

Three species of liliaceous plants, of easy propagation, promise to yield fibre worth nearly £10 a ton. India-rubber is another product which it is hoped may be largely developed, as the demand for it at present almost exceeds the supply. We are told that 'given abundance of cheap native labour, and the financial security of the protectorate is established. The European comes here with his capital, which he is ready to employ to almost an unlimited extent if he can get in return black men who will, for a wage, work with their hands, as he cannot do himself in a tropical sun. It only needs a sufficiency of native labour to make this country relatively healthy and amazingly rich. The cultivation of coffee would be a hundred times more extensive than it is if there were an adequate labour supply.' For unskilled labour three shillings a month, with or without food, is paid, and proportionately less for women and children. Skilled native labourers—carpenters, masons, brick-makers, &c.—receive wages of from four shillings a month to £10 a year. There seems to be every reason to believe, in accordance with the opinion of the oldest and most experienced planters, that the prospects of success in this industry are very hopeful. Considerable areas of land suitable for coffee are yet to be had, the price varying from five shillings to twenty shillings per acre, and no doubt as the country is better known, and more capital is introduced, the difficulties which have kept back and hampered its development will rapidly disappear, and British Central Africa will yet become, if not the most extensive, perhaps the most successful coffee-growing country in the world.

TALK WITH A TEA PLANTER.

(From *Natal Mercury*, Oct. 30th.)

CEYLON AND NATAL COMPARED.

We have had a call from Mr. John Fraser, a tea planter, of Ceylon, who is on his return journey after a trip to Europe. He and the Messrs. Aitken, of the Lower Umzimkulu, parted as young men in Aberdeen 34 years ago, and unexpectedly met a week or two since at Ruthville. Mr. Fraser has utilised his stay in South Africa to see the tea gardens of Natal, and the results of his observations are of value. In Ceylon he grew coffee for 16 years, and when that failed he, in common with other islanders, planted tea. The herb began to be generally grown there in 1880, about the same time as its cultivation was started here, although a commencement had been made four years earlier. The progress of the industry in Ceylon, compared with the progress made in Natal, is a matter that deserves investigation—as to why Natal tea has advanced so slowly, comparatively, as regards the output and its general use. Within six years, in 1886, Ceylon was producing over 5,000,000lb. of tea and the output for 1898 will be over 100,000,000lb. The rapid strides of recent years as regards export to America were due to the efforts of Sir John Grinlinton, a Member of the Council, who advertised the Ceylon beverage at Chicago, and Mr. William Mackenzie, himself an astute and successful planter. China, which used to supply England annually with 300,000,000lb. of tea, now exports no more than 40,000,000lb. and the shortfall is being made up by India with 150,000,000lb. and Ceylon with 100,000,000lb. What is Natal doing for the world's consumption? Ceylon looks upon South Africa as a country that grows its own tea, and Ceylon will not push itself into our market unless Natal fails to fill it herself. Mr. Fraser was himself asked to send from Ceylon a shipment to Johannesburg of 5,000lbs. of tea, to be followed by monthly shipments of 10,000lbs. If Natal, however, allows outsiders to come in, a taste will be created for foreign brews, and Natal will have admitted a competitor for which there should be no call Ceylon tea, however, is beginning to find its way to this country. In Johannesburg, next to Heath's Hotel, is a cafe which makes a special feature of Ceylon tea at 6d. a cup; crowds of anight take advantage of the opportunity, and so a liking for Ceylon tea is created. If this taste gains a firm and general hold, Natal tea will be looked on with less favour—for the reason, it is stated, that merchants cannot rely on an even quality in Natal brands as they can in the case of Ceylon. A rapidly increasing output would be less desirable than a steady and reliable quality in the produced—a quality which has not been sacrificed to the desire to promote the output. Mr. Fraser thinks that tea would grow anywhere in Natal, but notat a profit. Maritzburg seems the extreme upper limit of profitable industry. Beyond the vicissitudes of climate would probably prove fatal. Ceylon has no winter as in Natal, and there is no cessation in the plucking season; and another advantage the island possesses is a more frequent flush. With advantages of this nature to compete with, it behoves Natal to see if there are any means within her reach to improve the quality of her product, as she cannot change the weather or force the leaf. To begin with, Mr. Fraser is able to assure us that we have in the Colony a good *jat* of tea—in fact, the average quality is equal to that of Ceylon, at all events, so far as the early fields are concerned. Ceylon is now, however, paying as much as £20 for a maund (80lb) of indigenous seed, and this is only sufficient for four or five acres. Our informant has no word to say in regard to the quality of the plants he has seen in Natal, or the manner of their planting. From this point, however is to be traced our weakness. The bushes are not cleaned enough—more old wood should be cut down; and whilst pruning would reduce the quantity of the crop the quality would assuredly be superior. The Natal tea planter has every appliance, proper machinery, adequate premises—all equal to anything in Ceylon—but the system of manufacture is

generally at fault. The withering, in the opinion of the Ceylon planter, is very uneven. The reason of this lies in the inequality of the leaf, the larger leaves, of course, taking longer to wither than the smaller leaves. In Ceylon there is required one coolie for 1½ acre, whereas in Natal one coolie is supposed to be ample for four acres; hence the advantage in point of labour is shown in favour of Natal. The result, however, is to some extent an indiscriminate plucking. With so large an area to cover, the coolie has to exercise a haste which does not allow of carefulness in selection, and in consequence a larger leaf is plucked than should be admitted, and the uneven withering that follows is fatal to a first-class tea. It is admitted that Natal makes as good tea as Ceylon did 10 years ago, but if Natal wants to compete on even terms with Ceylon and India in the world's market, or even to keep foreign teas out of South Africa, she must improve her manufacture. What would doubtless tend to this in the first place would be a visit by Natal planters to the home of successful tea-growing elsewhere. A few weeks' residence in Ceylon would be of infinite value; but, even in Natal, an advance in the standard of manufacture would be possible if planters worked together for mutual good, as is the case in Ceylon. There the neighbouring planters pay neighbourly calls, and enter each other's factories, and question and criticise, advise and compare notes, and so the experience of all is gained and given for the benefit of each. In Natal there appears to be no community of ideas, no common interest, and one planter rarely enters the factory of his fellow. What Ceylon did with its coarse teas was to send them to town in sacks and sell to the natives at 1d. or 2d. per lb. The natives were glad to pay that amount for the leaf, and while the grower in this way received some return for an article that could find no other market, he was careful to ensure that no tea which left his factory for ordinary consumption under his own brand was other than excellent and even in quality. By strict attention to this detail a reputation has been built up, and the world is now willing to take all the tea that Ceylon can produce. The coolies in Ceylon are drawn from and around Madura and south of Madras, whereas Natal gets her labour from Madras and from Calcutta. The Indian coolie is paid in the rupee, the value of which is now 1s. 2d., and the wages for children, women, and men run from 16 cents. to 40 cents. per day—an average check-roll showing perhaps 35 cents. per head, or about 5d., and the coolies feed themselves. If cost of labour in this Colony is higher than in Ceylon, that Colony has to pay a duty wherever its tea enters, whereas Natal has the whole of South Africa to exploit for a market. Mr. Fraser, however, is not too favourably impressed with the energy of the Natal farmer and planter with the exception of two, viz.—Mr. Hudett of Kearsney estate and Mr. Hindson, Clifton, both shrewd and intelligent men and have done as much for Natal tea as any two men in Ceylon have done for Ceylon tea. The coffee disease in Ceylon, which swept the island clean and practically abolished coffee-growing there, was worse than locusts and rinderpest combined. Men everywhere were ruined, and yet they at once set to work to build up a tea industry on the ruins of coffee, and with what success all the world knows. Yet there are not 4,000 Europeans in the whole country and scarcely any European labour is employed. For instance, an estate of 700 acres would be managed by the manager and one European assistant, with the aid of native conductors. Our Scottish visitor cannot believe that Natal planters are planting at a profit under their present system. It is not quite clear, however, what that system is, as planters are reticent in giving figures. Mr. Fraser has great doubt as to what this may mean. It may be that they are dissatisfied with their figures, or that they do not wish to make known the profits they are making. At all events, they appear to be so bound up in their own ideas that to give a friendly hint is to be looked on with suspicion. "But with all the drawbacks," concluded Mr. Fraser, "I think there is still a good opening for outsiders to come in and plant tea in Natal."

PLANTING AND PRODUCE.

(From *H. and C. Mail*, Nov. 6.)

TEA FREIGHT IN CHINA.—A resident in Shanghai calls attention to the question of steamship discrimination in favour of foreign, including American, ports. He says: "Last year I called attention to the fact that lying off the bund at Hankow were two steamers belonging to the same company, one loading teas for London at 70s per ton, the other teas for Odessa at 40s. History repeats itself; steamers are now loading here for New York at 30s, while the rate to London is 40s, and the London steamers fill up at Colombo with tea at 6s 3d. Owing to excessive taxation the tea trade from China to London has practically been killed, and it would be satisfactory if steamer agents would explain why they imposed this additional burthen. The inevitable result must be to prevent London from being, as she has been hitherto the distributing centre. Until this season many shippers sent their teas 'optional'; that is, they could be landed in London or forwarded to New York as the markets permitted. Now it is cheaper to ship New York and thence to London than to London direct; yet steamer agents profess to wonder why their London steamers do not fill."

THE TRANSIT PASS SYSTEM IN CHINA.—Mr. Herbert Brady, the British Consul at Kiu-kiang, in his last report refers to the system of transit passes in China, by which, on payment at the port of entry of half the import duty in lieu of transit dues, goods are allowed to go free of transit duty to a declared destination. This means, after the half-duty is paid, the goods are still liable to the exactions of corrupt officials at the transit barriers—in other words, that the pass is not respected by those to whom it is really addressed. Mr. Brady says: "Last year imports to the value of about £300,000 were sent from Kiu-kiang into the interior under transit passes, being about £75,000 more than the previous year. This is done by native merchants, who monopolise the whole of the import trade of the place. During the year only one complaint, and that of a most trivial nature, was received at the Consulate in regard to breaches of the protection afforded the passes." Mr. Brady says "there is no doubt that the latter are respected at the inland barriers, for inquiries which have been widely made amongst the Chinese merchants show no complaints. They say that no additional or differential taxation of any kind is imposed at their destination on goods which have been covered by a pass. If they are carried beyond the place mentioned in the pass they pay exactly the same charges at the further barriers as ordinary goods in transit. As to the saving caused by passes, this is variously estimated; it is difficult to fix a proportion, because the pass covers goods to any distance, while uncertificated goods pay at every barrier, and the advantage of the pass therefore grows with the is tance traversed. Kerosine oil is largely carried dinland under transit passes, and there is said to be a saving in this instead of paying the transit dues at the barriers: and the same may be said of piece goods, lead, and iron. No transit passes for exports have been taken out, although rules for granting them were made six years ago. The reason is that the foreign merchants at Kiu-kiang have no direct interest in exports, save that of tea and the conditions of the tea market have so greatly changed in recent years that foreign merchants are content to buy in the local market and not go into the interior to buy, as in former days. Hence the mode and circumstances under which the tea arrives in the market are of no concern to them. Mr. Brady thinks that no difficulty would be made in the issue of transit passes for exports, nor does he believe that the same obstruction would occur at the inland barriers as twenty-five years ago, when a British merchant brought down tea from the interior under a transit pass for the last time."

THE POSITION OF THE WEST INDIAN SUGAR INDUSTRY.—The present position of West Indian sugar planters is one of despair. Having thoroughly made up thei

minds that the Continental bounty system has practically ruined them, they decline to accept any other theory for a moment. The planters of British Guiana are deeply concerned, and the Georgetown Planters' Association has applied to the Imperial Government for relief, and has suggested that one of the following three measures should be adopted:—"(*a*) The immediate payment from the Imperial Treasury of a sum per ton of sugar exported from the colony equal to tho bounty on export sugar given by Germany, so as to place the industry in the colony on an equal footing and in as favourable a position as that of foreign countries now exporting beet sugar to Great Britain. (*b*) The arrangement of a conference of the European countries giving export bounties on beet sugar, with a view to settling a joint agreement for the immediate abolition of such bounties. This matter of relief to be of any assistance to British Guiana must be very promptly carried out. (*c*) The imposition of a countervailing duty on all foreign sugar imported into Great Britain equal to the bounty given at the port of export." Unfortunately the planters of Demerara and Essequibo are not the only persons who have had to face an enormous fall of prices. Other agriculturists have suffered in the same way, and might ask for a subsidy also, and the question is, when should such subsidies stop? Supposing that China and Japan, owing to Government subsidies, were to become formidable rivals of Indian and Ceylon tea planters in the tea markets of the world, the latter would be entitled to ask for subsidy from the British Government, in the same way as that suggested by the sugar planters of Guiana. Our sympathy is with the sugar planters of British Guiana and the sugar-producing colonies, but we fear that protection will not help them. Cane sugar is grown in the United States, and it is protected, except as regards Hawaiian sugar, by a very heavy duty; but, in inspite of this duty, German beet-sugar is being imported into the United States in quantities which are increasing enormously, the total for the first eight months of this year being estimated at nearly 600,000,000 lb. as against only about 135,000,000 lb. for the corresponding period in 1894 and about 167,000,000 lb. for the first eight months last year.

Science and Improved Machinery.—Sir Charles Bruce has just reported on the decline of the sugar industry in the Windward Islands. He opines strongly to the view that the main cause of this decline is the system of subsidies adopted by foreign governments which guarantee the producers a margin of profit even when the price is below the cost of production. Whatever the reason, the decline during the last fifteen years is very striking. In St. Vincent, for instance, the value of the export in 1880 was £128,603; in 1895 it was £21,581. In view of these figures, it is satisfactory to learn that Professor Harrison, who has reported on the agricultural prospects of the islands, holds out great hopes of renewed prosperity from scientific treatment of the soil and improved machinery. Sir Charles Bruce in his report on St. Lucia shows how much headway may be made even against the worst of agricultural depression. The mortgagees in possession of the estates of the Central Sugar Factory Company gave notice of withdrawal from the property. As the company itself was entirely without funds, it seemed certain that tho estate would revert to its natural condition of jungle, and that a large body of labourers would be thrown out of work. A local syndicate then came forward and took over the estates for a year. "I understand," says Sir Charles Bruce, "that the estates have been worked with such superior energy, skill, and economy as to realise an immediate profit, and to justify the belief that the cultivation of the property will be permanently maintained and extended, with profit to the undertakers and every advantage to the colony."

Coolie Labour in the West Indies.—There is one point in connection with the crisis in the sugar planting industry of British Guiana which must not be overlooked, and that is the difficulty between maintaining the validity of the position of the indentured coolies on the one hand and the employment of coolies whose contracts had run out at less wages on the other; the alternative being the closing of the estates, which means ruin to practically the entire population. There is also a far more serious question to be faced by the Imperial Government, as the insolvency of tho whole sugar industry will also mean the insolvency of the colony for the heavy loans to the estates guaranteed by the colony, while the revenue will suffer in proportionate ratio. The obliteration of the sugar industry in British Guiana will mean the disappearance of at least 75 per cent. of the whole trade of the colony.

Cuban Planters and their Troubles.—It is an ill wind, &c., and the losses of the Cuban sugar planters from the insurrection in the "Pearl of the Antilles" has been some gain to sugar planters elsewhere. The exportation from Cuba to the United States had fallen off by two-thirds up to August, and has now ceased, to the advantage of sugar cane growers in the West Indies, and in the East too. As to tobacco, owing to exceptionally large stocks being in hand, the market for Havannah cigars has not yet risen to the extent expected. But experts in the trade predict that in another two years there will be such dearth as will place prime Havannahs beyond the reach of all except the very wealthy.

Coffee in the Congo.—M. Laurent, Professor of the Agricultural Institute of Gembloux, entrusted, by the independent State with a mission to the Congo, has just published a report upon the results of his travels, in which he says that the Congo will, in some years to come, be as important a coffee-growing country as Brazil is at the present time. The coffee tree will find in the great equatorial forest the conditions of soil and climate that are the best suited for it. It grows there in a wild state, and there are three descriptions known, two of which yield excellent results. According to the information M. Laurent has obtained at Bosoko and Coquillhatville, the preparation of the ground for coffee plantations would require native labour, which could be obtained at a cost of about £10 per hectare (2.47 acres).

COFFEE IN THE CONGO STATE.

WEST AND CENTRAL AFRICA.

We have received from the author, M. Emile Laurent, Professor in the Government Agricultural Institute at Gembloux, Belgium, a copy of his Report in French, addressed to the Belgian Secretary of State, on the Agricultural Prospects revealed by his journey in the Congo Free State appertaining to King Leopold. This journey, specially subsidised by the Government, extended from the 8th September 1895 to the 14th of May 1896, and included a great portion of the vast extent of territory comprised in the State for over ten degrees south and five degrees north of the equator with some twelve degrees of latitude. Pending a full translation of this important Report, which we may publish *in extenso* in our *Tropical Agriculturist*, we may forthwith give a general idea of its contents. This must be very brief; for the Report covers over forty pages of a large size printed pamphlet. It has passed into a third edition, so it is evidently attracting a good deal of attention in Belgium and on the Continent generally; and as a result we may expect a considerable introduction of both planting pioneers and merchants as well as capital into the Congo. But it will be surprising if British traders and money do not take priority when it is found that there are new products available, much in demand in Europe and America. Already, the Congo State is the scene of some very successful English Mission Settlements.

M. Laurent voyaged up the Congo and begins by describing the "District of the Cataracts," its narrow fertile valleys, its wooded ravines and sandy plains. Here he considers there may be scope for the planting of Liberian coffee, in spite of the disadvantage of the long dry season; a small area already contains plants two years old. The district of Stanley-Port and of the eastern Kwango contains several varieties of India-rubber of the Landolphia genus growing in great abundance, and experiments of coffee growing and two cacao trees are referred to; but they show so far no great promise, the soil being too sandy and dry. The district of Lake Leopold II promises most for India-rubber, plantains are abundant and probably tobacco would do well.

In the district of Kassaï and the Lualaba, the upper streams near the source of the Congo, M. Laurent found what seemed to him a new variety of coffee growing wild. It is a small tree from 3 to 5 yards high with spreading branches often growing over streams of water. The leaves are larger than those of Liberian coffee and the flowers small like Arabian coffee.

In one plantation he was able to compare the growth of this variety with the Liberian. In the Arab zone, or district of the Stanley-Falls, he noticed in the forest region very fine potatoes, the fourth crop within fifteen months. He thinks cotton and indigo may possibly grow well. Then follows "The forest region." In the district of the Aruwini were some coffee and cacao plantations of which more detailed statistics are given as also of others in the district of the Bangalas and that of the equator. The second part of the paper is on the cultivation of coffee, and on minor cultivations. The third part is on the objects to be pursued in the Congo, by the Belgian state and cultivators. The information altogether is of much practical value and we shall refer to it when the details are all before us.

CEYLON TEA IN AMERICA AND RUSSIA.

We think the time has come when the Committee of the Ceylon Tea Fund should consider the desirableness of discontinuing any and every subsidy to private individual or firm in both Russia and North America. If our information be correct in respect of both countries—and it is derived from well-informed quarters—Ceylon tea has got a good hold in both countries and is now handled by far more firms and individuals than those who have received, or are receiving, aid from the planters' funds. One consequence is that jealousy and other ill-feeling are being engendred in connection with the action of the local Committee and their agents, and the result of certain favored dealers being subsidised any longer will be to increase these antagonistic feelings. In this way, not only are the majority outside the subsidised list who have to touch Ceylon tea, hindered by a very natural jealousy, from going into the trade as freely and fully as they would otherwise desire; but many more dealers who would probably follow suit if they saw a clear field and no favour, are holding off as long as ever they can, under present circumstances. On the other side, it will no doubt be pleaded that the best way to force the hands of the big and little tea houses in the United States and Canada is to work through a very few leading firms who are ready to expend any money from Ceylon in advertising its tea, holding and distributing a supply on their own account. But surely, it is not impossible, now that a considerable acquaintance with the tea business in the United States and Canada has been acquired, to expend all local funds in advertising direct each advertising for the benefit of all, equally, who are ready to hold and distribute Ceylon tea? Our readers are aware that from the outset, we discouraged the plan of private subsidies in the case of the American market as being unsound in principle, and calculated, sooner or later, to engender prejudice and jealousy. We are free to admit, however, that to get a start in the face of considerable opposition, a temporary subsidy in a few well-selected quarters may have been advantageous. But, if so, we think there is evidence that a change of police to direct and impartial advertising in the Unitey States and Canada, would now be still mord advantageous, as well as a wise and politic course o pursue in the interests of all concerned. Wee know that the expense of advertising in the best papers and periodicals in America is described as very high—much higher it is said than any rates quoted in the British Empire—but if the right course is adopted, it must be nearly, if not quite, as economical to advertise direct, as through the agency of subsidised firms. What is wanted is, we suppose, a very concise notice setting forth the merits of Ceylon Tea and appended to it a list of the houses who keep a supply for distribution in the State or City in which the advertisement appears? Giving the names of all who keep our teas, in this way, should be a very acceptable, as well as fair, mode of extending aid from the Ceylon producers. We leave the subject, as regards the United States and Canada, in the hands of the Committee. Very probably, our shrewd Ceylon Commissioner may, in his present visit to America, arrive at the conclusion that the time has come for general and impartial advertising, in which case a speedy termination would, no doubt, be put to special or individual subsidising; and advertising in the interests of all become the rule. In addition to the mention of the names of dealers in the Planters' Ceylon Tea Advertisement for America, a supply of literature in pamphlets, leaflets, wrappers, &c., should be furnished to each house taking up our teas. Many of the larger firms would, perhaps, prefer to prepare such for themselves; but smaller dealers might be very willing to utilise such literature, stamping their own names on all they distributed. In any case, we plead that the time has come for the removal of any cause of bickering or jealousy, or for the preferring of a charge of favouritism on the part of Ceylon planters, among the tea dealers in the United States and Canada.

In the case of Russia, we believe the time is also fast approaching, if it has not already come, for ceasing individual aid. We do not suppose such aid is given in more than two or three cases. But the number of people exporting Ceylon tea to Russia either direct or from London, or dealing in it, in that country is considerable. The latest illustration is afforded in our "Metropolitan Notes" where reference is made to the great success of Lipton's new establishment in St. Petersburg. A single order for 3,000 chests of tea, mainly Ceylon, from that one distributing store, which was being executed in London in early November, indicates great progress; and Lipton is not alone, we believe, among new houses exploiting Ceylon tea in the Russian Empire.

Correspondence.

To the Editor.

COFFEE IN SOUTH SYLHET.

Daurachura, Munshi Bazaar, South Sylhet,

Oct. 3.

DEAR SIR,—I have been experimenting for the last three years with different varieties of coffee in this district. I have been advised to send you a sample for your opinion. If you would kindly let me have your opinion on the sample, which I am sending per parcel post, as to its quality and approximate price in the market, I would be obliged. The sample is taken from a maiden crop, three years of age. The seed was got from Coorg, and was grown at a low elevation—50 ft. above sea-level only.—I am, dear sir, yours faithfully,

JAMES LAURIE.

[An expert to whom we submitted the sample reports:—"It is very small, and the silver skin has been allowed to settle on the bean—a bad fault in curing. I am unable to give its present value."—ED. *C.O.*]

GOOERA (CEYLON) TEA ESTATES, LIMITED.

Oct. 21.

DEAR SIR,—We have received advice from London that this Company has declared a final dividend of 10 per cent. making, with the *interim* dividend paid in March, a total of 17 per cent for the year, and the balance carried forward is equivalent to 7 per cent. on the capital of the Company.—Yours faithfully,

BAKER & HALL, Agents.

THE MANUFACTURE OF TEA IN CHINA:

COMPETITION BETWEEN INDIA AND CEYLON.

Colombo, Nov. 7.

DEAR SIR,—We have much pleasure in enclosing a letter received by us from a gentleman in China (also an owner of estates in Ceylon) in regard to the awakening of China merchants to the fact that unless something is done, the total extinction of their foreign and colonial trade is within measurable distance. The means adopted to counteract this are the importation of an economic roller and the adaptation of Ceylon methods for withering, drying and rolling the leaf. Samples of the first teas made under the new process have reached us from both China and Australia, and after a careful examination we find there has been an improvement made in the appearance, but the liquors still remain those of China teas, with all their characteristics. It would be unwise to under-estimate the opposition of China, whose hold upon several markets of the world is still a strong one. At the same time no good can come of over-estimating it, and we feel assured that China's real obstacle to regaining her old position in the trade is owing to the fact that her soil cannot produce tea of sufficient body and strength to the possession of which the popularity of Ceylon and Indian tea is due. Improved methods of manufacture may and will no doubt result in the production of tea resembling somewhat in appearance that of India and Ceylon, but there is no possible method of manufacturing by which the evil of the soil producing the tea can be overcome. Were fresh land in China opened and planted with good Indian seed, it is possible an improved article might be produced, but if the attempt at the resuscitation of the trade begins and ends with manufacturing the present leaf by Ceylon and Indian methods, the interests of Ceylon are not threatened.—Yours faithfully,

CROSFIELD, LAMPARD & CO.

(*Copy of letter received.*)

Oct. 9.

My dear L,—Thanks for your last letter. I see that you agree with what I previously wrote on the subject of encouraging the sale of your teas in Russia, and as you are much interested in that, you may like to have a few more notes from me on it.

That a start has been made in increasing the use of Ceylon teas in Russia is evident to all, and the course of the Northern markets in China this season go to prove this for the direct export to that country has fallen off 4 million pounds. Nor has this so far been made up by purchases on the London market, one of the best informed houses there writing that the expected demand for black leafs for export has not yet shewn itself. The start having been made it behoves all interested to help it along, and the need for this to be done *immediately* is becoming more urgent and for the following reasons. The merchant in China has awakened to the fact that the critical period has arrived and he is taking steps to ward off the total extinction of the trade. From Shanghai very strong representations are being made by the Chamber of Commerce to the Chinese authoritities through the medium of foreign ministers at Pekin, pointing out the evils which press so heavily on the trade, especially such as the "lekin" tax and the export duty. When many years ago, the latter was fixed at R2·5 per picul, it was regarded as the equivalent of 5 per cent on the value of the tea exported, but by reason of the great fall in the value of the article on the home markets, the same duty now represents from 25 to 30 per cent of such value. The Chinese are anxious to *increase* the duties on imports, and to obtain this, they *may* consent to a reduction of the duties on the export of tea. But the most important movement to be considered is that which is now taking place at *this* port having for its object the improvement of the teas produced here.

An "Economic" roller has been imported and a Company formed with the view of obtaining other machines for distribution amongst the various tea districts, so as to try where the Ceylon method of withering and rolling can be successfully applied. The machine arrived too late in the season to be tried upon first-crop leaf, and the several parcels of tea which it has turned out from "*second* and *third*" crop leaf have been disappointing—the teas rapidly "changing" and, though shewing more strength than the same leaf produced under Chinese methods, giving no flavour in the cup. But it must be remembered that so far only the second and third crop leaf from one of our poorest districts has been experimented upon, and the promoters of the Company are sanguine of better things resulting from the treatment of first crop. The Chinese teamen generally are averse to the use of machinery, but many are willing to try the Ceylon method of withering and the more careful manufacture of the leaf by "*hand*."

I naturally take great interest in the subject and I have sent to *you today* a sample of both machine and hand made teas under the new system of fermentation, and I am sure that any one sufficiently interested to take the trouble to obtain from you a glimpse of these samples, would be shewn them with pleasure. It will be seen from an examination of these samples that in "appearance" the new makes compare favourably with many of your broken pekoes, and this being so as regards the leaf it may well be that with first crop leaf and in time better cultivation of the plant, competition from this country may again be felt.

Further it is already being mooted as to foreigners leasing lands in the tea-districts and through their own Chinese employees, "*growing and manipulating the teas from start to finish*," which would certainly lead to improvement. Of course it will take some time to show any result from these attempts, and they may be unsuccessful. My aim is to shew you what is being done with a view to meet your competition and as it is a question of "success," or "extinction," you may sure the matter will be thoroughly thrashed out here. It seems to me therefore that the moral to be drawn from what I have written is the rigorous and *prompt* pushing of the campaign in Russia, one of the largest consumers of tea in the world and the careful upkeep of a good standard of quality, for in common teas China can beat the world in giving a well made article at a low price, and should the vexatious "lekin" and the heavy export duties be removed or lightened, she may yet endeavour to stem the tide of competition which is now threatening to drown her.

I would take this opportunity of again urging the application to the Russian Campaign of *a large portion* of the funds now being spent in Canada, where I am certain from my own observation, that all the good that your Delegate was expected to do, has already been accomplished and the further exploitation of that country may be safely left to those engaged in the trade,—Yours sincerely,———.

P. S.—I have sent you to-day a third sample marked XX. which is the best specimen of the new style which has yet appeared, and which really *does* possess strength and flavour together with a tippy leaf.

THE RHEA FIBRE SYNDICATE AND GRANTS.

SIR,—I notice in Monday's "Times of Ceylon" a letter from the well-worn pen of "Vril" on the subject of grants in general and Rhea in particular. If "Vril" serves as *nom de plume* to veil the powerful entity I think it does, he has been out long enough to have been a keen observer of, and cynical though not unkindly commentator on many jobs of sorts. But this last impudent attempt to get the pick of a province for nothing seems to have goaded "Vril" into really serious remonstrance. But as he says—we have no safeguard against this sort of thing going on for ever. Nor shall we have, until it is laid down that no grants of land shall be made except by the Legislative Council, and that would mean that none would ever be made. And so mote it be.—Yours truly,

OVER PRODUCTION.

CASTILLOA RUBBER.

Wiharagama, Matale.

DEAR SIR,—You have shown such special interest in the matter of rubber cultivation and upon one occasion getting a highly favorable report from home on a sample of this particular variety from Matale, that I am sure you will excuse my calling your attention to an article in the last *Chambers Journal* to hand viz. for the month of October. It is far too lengthy an article for me to quote, but it contains so much regarding the practical cultivation of *castilloa elastica*, and with such splendid prospects of success at Nicaragua that to give the crude outline without details would make one's hair stand on end. The writer says that estimating the "9 years' yield value of £50,000 and deducting cost, interest and expenses the nett profit will be £47,620," which is a pretty good return for a nett capital outlay of £3,625!

He states that trees tapped in the wet season are estimated to yield five times as much milk as in the dry. Is this the explanation of the lamented Dr. Trimen reporting on the poor yield of this variety? I believe this is the secret of our disappointment in quantity. As regards quality of that sent from Wiharagama, Matale, your senior had the report from experts that it was the best rubber they had seen from Ceylon.

The opening suggested by this article deserves your bringing it into notice of your planting friends. J. M. KANDY.

THE DUMONT COFFEE COMPANY LIMITED.

45, Leadenhall Street, London, Nov. 6th.

DEAR SIR,—We beg to inform you that on the 2nd inst., we received the following cablegram from Mr. G. A. Talbot, one of the Directors of this Company, who proceeded to Brazil on the 2nd ult., to inspect this Company's properties.

"I consider property a magnificent one, and exceeds in luxuriance anything I have seen in Ceylon, the Straits, or Java.

"Favourable crop prospects for next year.

"I am confident we can raise the value of our coffee by introducing improved methods of preparation.

"Steps will be taken to ensure a proportion of next season's crop being cured by Ceylon methods.

"Have decided our railway be exented at once, as it is likely to prove a source of increased income."—We are, dear sir, Yours faithfully,

P. R. BUCHANAN & Co.
Secretaries.

INDIARUBBER.—There is a greater demand now for the product of the indiarubber tree than has ever been known, the tires of the ubiquitous bicycle and other vehicles alone consuming an immense quantity. Everything regarding the substance is therefore of real interest to many, and Sir Henry Derring's recent report on the rubber industry as carried on in Mexico will find many readers. The methods of its collection in Nicaragua, and the profitable nature of the industry are fully discussed in the article, "Out with the Indiarubber Gatherers," on a previous page.—*Chambers' Journal.*

NOTES FROM THE METROPOLIS.

Nov. 6.

I have been favoured with the following official Report of the proceedings at the recent statutory meeting of

THE GALLAHA CEYLON TEA ESTATES AND AGENCY CO., LD.,

held at 29, Lime-st. on 29th ult:—

After the notice had been read by the Secretary, the Chairman (Mr. C. E. Strachan) addressed the Shoreholders, and reminded them that this was the Statutory Meeting which had to be held within a certain time of the registration of the Company. It was quite of a formal character, and there was no resolution to bing forward.

Mr. Strachan, however, took the opportunity of speaking about the formation of the Company and the working of the estates. He mentioned that the Prospectus stated the subscription list would open on Tuesday, the 30th June, and would be closed before or at 4 p.m. on the following day, but in order to avoid disappointment it was found advisable to close it at 2 o'clock on the Tuesday, as by that time applications had been received for no less than 12,181 Shares, or more than twice the amount offered, and he felt sure that if the list had been kept open longer it would have been covered several times over. This he considered very satisfactory, as it showed the confidence of the public in the undertaking. The allotment of the Preference Shares was made with great care, and as no complaint had been made it was presumed it had given satisfaction. In accordance with the Prospectus an application for quotation was made to the Committee of the Stock Exchange, and this has been granted under the usual conditions. The price in the official l... was 10s, to 15s, premium, and the Chairman thought this quotation would advance, as it was not easy to obtain Shares so amply secured as these were to yield such good interest at so cheap a price.

With regard to the prospects of the Company it was of course too early to make any definite statement, but there was no reason at the moment to alter the estimates. Up to the 30th September, 19 per cent. of the estimated Tea crop had been harvested, which is considered by the Colombo Manager in a recent letter as very satisfactory, and on some of the estate covering a large acreage it is expected that 60 per cent. of the estimate will be secured by 31st December. This would be very good indeed, as it was usual to expect two-fifths of the crop during the first six months, and three-fifths during the last six months of the season, April May and June being the best months in Ceylon for yield.

The quantity of Tea crop sold in London to date was 79,748 lbs., which had averaged 7 89d per lb. net, or upwards of ¾d per lb. above the estimate of price stated in the Prospectus, and as the quality is uniform, there is no reason why prices should not keep fairly steady.

Mr. Strachan also said that when the additions now being made to the Factory were completed, the Company would be able to take in all the leaf for several years, and if further extensions should then be necessary, the Company would be able to afford the cost, as more space would mean more leaf and more profit. The cost of the permanent works would be met out of the sum of £10,000 set aside for capital outlay. About 300 to 400 acres of new land are being opened up, this meaning virtually the addition of a new estate to the group, as estates in Ceylon average about 250 to 300 acres, and each year further clearings will be opened up until all the available land is planted. Such buildings as coolie lines, are being made permanent, and this is being done at a small cost, as the Company owns a brick and tile manufactory, a property which adds a good deal to the value of the estates. All these additions add very materially to the security of the Preference Shareholders.

The supply of labour on the Company's properties is ample, and full numbers of coolies are always obtainable, as this is a favourite part of the country with them, and their comfort has always careful attention.

Mr. Sinclair said he had only to complain of one thing, and that was that he had not been allotted the full number of Shares he had applied for. Being an old Ceylon Planter, and knowing these estates well, he would have liked to have had more of the Shares.

The proceedings closed with a vote of thanks to the Chairman, proposed by Mr. Sinclair, and seconded by Mr. Low. C. E. STRACHAN, Chairman.

The Mr. Sinclair is, of course, Mr. James Sinclair, Chairman of the Dimbula Valley Company. The latest rumour is that Mr. Strachan has been offering a large sum (£50,000 is the report) for two well-known Maskeliya estates; but that may be for a separate Company—that is if the sale takes place.

Of another

CEYLON TEA COMPANY,

the *Financial Times* has the following:—

CENTRAL TEA OF CEYLON.

The report of the directors of the Central Tea Company of Ceylon for the year ending 30th June last shows that the net profit was £3,091. A dividend of 10 per cent. on the ordinary shares is proposed, leaving £281 to be carried forward. To meet the purchase of two estates acquired since the company was formed a temporary loan of £8,584 was arranged, and it is now proposed to issue 593 ordinary shares at a premium in order to deal with this.

THE EASTERN PRODUCE AND ESTATES COMPANY, is evidently doing well this year: an *ad interim* dividend of 2s 6d per share having just been paid.

I quote the following

COMPANY REPORTS,

because first the exports of coffee from Brazil this season are said chiefly to depend on the capacity of the San Paulo Railway as a traffic carrier, and secondly Natalians are ambitious of developing an appreciable tea industry:—

PUBLIC COMPANIES.

San Paulo Railway.—Yesterday, at the Cannon-street Hotel, Mr. Martin R. Smith presided over the seventy-fourth general meeting of the shareholders of the San Paulo (Brazilian) Railway Company. In moving the adoption of the report, he said it was true that the net receipts for the half-year were some £27,000 less than in the corresponding six months of 1895; but last year £30,000 was absorbed in making provision for depreciation of assets. Therefore the net profits showed an increase of about £3,500 available for distribution. The falling off in receipts was due principally to a decrease of no less than 32,000 tons of coffee carried, and the increase of working expenses. They were employing more men, and until the duplication of the line was completed they had to meet heavy expenses in the maintenance of the permanent way. The further traffic expected would be provided for by an increase of rolling stock and already they had shipped 15 locomotives and 2 5 wagons. The total cost of the additions to the rolling stock would be £150,000. This expenditure would come out of the creation of new capital One adverse circumstance was the downward tendency in the rate of exchange, but on the other hand it was valuable to them in Brazil. They had been unfortunate in the collapse of the premium at first quoted for the new issue of shares, but it resulted from a variety of causes. He was confident however that a recovery would soon take place. In conclusion, he mentioned that the receipts from June 30 up to date were approximately £40,000 in excess of the corresponding period last year. The report, which recommended the payment of a dividend of 6 per cent for the half-year, together with a bonus of 8s. per share, was adopted.

Natal Estates.—The first annual general meeting was held yesterday at the offices, 3 Fenchurch-street. E.C., Mr. Thomas Bell presiding. The Chairman, in moving the adoption of the report, said the transfer of the property had been comp eted, and that the trust deed securing the dehenture holders had been duly registered in Natal. The profit on the operations of the company amounted to £10,483 16s. 6d. From this amount £1,000 had been written off for depreciation, as well as £1,538 the whole cost of the transfer of the property, &c., and after allowing for the payment of debenture interest &c., there was an available balance of £4,836 16s. 6d. Out of this the directors proposed to pay a dividend of 5 per cent. for the past year which would absorb £3,750, leaving a balance of £1,086 16s. 6d. to be carried forward. In conclusion the Chairman said that good progress was being made with the erection of the building for the sugar machinery. Captain G. A. K. Wisely seconded the motion, which was carried.—*Daily Chronicle.*

COFFEE IN NYASSALAND.

Chambers' Journal for November has an article on coffee planting in Nyassaland worth giving in the *Tropical Agriculturist* ; also a good deal of information about India-rubber which must, undoubtedly, be cultivated in Ceylon much more widely than it is so far. Orange-growing in Jaffa, Syria, is the subject of another paper.

AT THE NATAL TEA GARDENS.

HOW A BIG INDUSTRY HAS GROWN—A VISIT TO KEARSNEY—RE-OPENING OF THE NEW FACTORY.

"Mr. and Mrs. J. Liege Hulett at Home, October 14th, 1896, at 2 30 p. m., on the occasion of the opening of the restored Kearsney Tea Factory, by his Excellency the Governor." Thus ran the invitation received, and which was readily accepted. for several reasons. To begin with, I—the first person is adopted for the sake of convenience—had never, despite a long residence in the Colony, seen a Natal tea estate, and, in addition, I had so often had to decline Mr. and Mrs. Hulett's kindly invitations, that I could not allow such a special opportunity to pass. Well, then, after much preparation, such are the exigencies of the journalist's daily round, Tuesday saw me rushing madly along, so far as N.G.R. conditions (with allowances for long rests at the various stations, almost as marked as the long waits at theatrical performances) and post-cart arrangements would permit. The roads were in excellent condition; indeed, as one of the members for Maritzburg remarked (little thinking of the compliment he was paying to the Government), you could get along well on them by bicycle. I hasten to say that the member in question was Mr. Tatham, who was in a most complacent mood, and was not heard to hurl a single epithet at the "terrible" Ministry by which Natal is at present governed. This, by the way. There was a race, *en route*, between the post-cart and a Government official—but that is another story, which shall be duly related and embellished at another time. On we bowled, arriving at Stanger just as a rinderpest meeting was over. Twelve to fourteen years have rolled by since last I was at this village, and, while it did not seem much altered, there were notable surrounding additions. Our host's stalwart sons and his son-in-law (Mr. Clayton, met us, and drove us at an enjoyable and inspiriting pace the five miles to Kearsney, which estate soon burst into view, with the palatial residence of the founder of the tea industry, commanding an extensive and charming view from the eminence on which it is situated. I should say it is one of the finest residences in the Colony, and its respected occupants are more than proportionately hospitable. Some of the guests invited for the occasion had arrived in the morning, and the remainder arrived during the evening. His Excellency the Governor, the Hon. Mr. Murray, C.M.G., and Capt. Marshall travelled leisurely in the Government mule-wagon, breaking the journey at the large new Tongaat Sugar Mill, which they spent some time in inspecting, and also lunched with Mr. Saunders. Amongst others were Colonel Gough, Mr. G. Payne (Mayor of Durban), Mr. F. S. Tatham, M.L.A., Mr. F. Greene, M.L.A., Mr. Marshall Campbell (of Mount Edgecombe), and Mr. Hamby, engineer of the North Coast Line, the embankment for which, by the way, is now very smartly pushed on, work [illegible] the way to Stanger. It was a very pleasant dinner party that assembled, and afterwards the majority slept so soundly that they were up by 5 o'clock next morning—at least some of them—enjoying the fresh air and exploring the estate. The scope there is for this may be gathered when it is stated that you can walk for 10 miles and yet keep within the bounds of Messrs. Hulett & Sons' estate. And such an estate! Row upon row, almost as far as the eye can reach, are to be seen the verdant-looking tea plants, all well tended and in order. It is, in fact, a huge, well-kept garden, and gazing upon it one can realise the immense amount of labour necessary to keep it in order and carry out the work, and also why planters and farmers are such consistent advocates for the employment of Indian labour. Mr. Hulett will tell you, for instance, that there are not kafirs enough in the Colony able to work to supply its needs; that if there were they are not comparable with the coolie, who gives twice as much work; that although in the old days native labourers, to a limited extent, were employed at an average wage of 10s, the coolie is much more satisfactory at the increased cost. But this is a question about which, amongst others, a great deal was said, and much that is useful during discussion at Kearsney, and which scarcely come within the scope of this article. which is to describe an industry and a pleasant function in connection with it.

On Dec. 27th last, during the hours of the night, the industrious family at Kearsney were roused by the dreaded cry of "fire," and hastily running to their windows they beheld the factory on fire. It was completely within the power of the flames, and practically everything, except the engines and boiler, was lost. It was about 4 o'clock in the morning before Mr. Hulett, senr , was made acquainted with the calamity, and in his practical way he set about considering the position. Before 6 o'clock he had written out telegrams to Durban, and cables to England, ordering new machinery. Next day clearing the *debris*, was commenced, and soon Mr. Hulett and his sons along with all labour that could be commended, were busily engaged in brick-making and other work, and, a plan having been decided upon, the small sections —*i.e.*, small in comparison with the main building, though large in themselves—were commenced, and were ready to receive the new machinery, which arrived from England within two months of the fire, and within two-and-a-half months were in position and work commenced. As a specimen of colonial enterprise and determination after disaster it is surely worthy of the highest admiration. The main factory. built on the foundations of the old, but a story higher, was quick to follow, and it was the opening of the completed factory that prompted the visit to *Kearsney*. The main building is 150 ft. long by 70 ft. wide, and contains, in addition to the ground floor, four large withering floors the full size of the building, and two, 150 ft. by 23 ft., in the lantern which surmounts it. With the large box-room, lead-room,, workshop, the large rooms containing the machinery, &c., the whole length of the building is about 450 ft., and is built of brick, with substantial wood and concrete floor.

A brief description of the processes within these premises may be interesting and instructive. As the coolies come in from the gardens with their baskets, the plucked leaves from the tea plants are spread on the floors in a thin layer, to wither, the idea being that the leaf should then be to the touch something like a soft silk handerkerchief. Because

of the even and thin laying so much withering space is required. The process is a quick one, as indeed the whole of the tea gathered in one day, should within 24 hours be withered, dried, rolled, and manufactured into tea ready for disposal and distribution anywhere and everywhere. This is the rule which obtains. On the seven floors in the new mill, if all were laid, there would be sufficient leaf for 5,000 lb. of tea and this process continues from the middle of September to the middle of June. Then commences the pruning and general attention to the cultivation of the plants. Through all the floors in the mills is communication with the ground room, where shutes, conveying the duly withered leaf, pour it into the rolling machines, whose work it is to break the juice-cells. Five hundred men a day would not roll out, as much tea as can the four machines (Jacksons's rapid rollers) in the corner of the room referred to. These were the machines that were cabled for at once on the night of the fire. The length of time occupied in rolling depends upon the condition of the leaf; it may be 20 or 90 minutes. The next machine to which the tea is taken is the breaker and cooler, for the purpose of separating the fine leaf from the coarse. This machine divides the leaf into "fine" and "medium," and the latter is put back into the roller. The fine finished leaf is removed and laid on the floor to ferment. Fermentation actually begins when the rolling commences, but the leaf is left on the floor till such time as it changes colour sufficiently to pass through the driers. Thus we pass into the drying room, a large and lofty room, with concrete floor whereby all chance of fire outbreak again is, it is hoped, obviated. Here are four of Davidson's down draughts, one of Davidson's uprights, and one of Gibb's latest patent, a cylindrical machine. The furnaces are of a patent character, consuming their own smoke, and during the afternoon an experiment was made in the use of St. Lucia coal, of which so much has been heard in connection with the Natal-Zululand Railway. St. Lucia coal is considered to be of special value for furnace purposes, being almost smokeless. Indeed, says Mr. Hulett, in this respect there is no comparison with it and Natal coal, which has been tried. Continuing our survey of the works, the next department encountered was the carpenters' and engineers' shop (all repairs having to be executed on the premises), the engine rooms (containing between them 20 horse power) boiler shed, a room in which the tea boxes are lead-lined and soldered. In connection with the latter, it is interesting to note that it is expected 60 tons of sheet lead will be required this year, and which, like the timber for the boxes, has to be imported. In the latter respect supplies are also largely drawn from Durban firms. Again we have to hark back to the machinery. When the tea comes out of the drier it has still more processes to undergo, and is next passed through the sorter, which returns it in various grades. Still another sorting machine deals with a certain proportion of the tea, which is now in condition to be placed in the large bins made for its storage, to be drawn therefrom as required. Anent complaints of variation in quality of the same brand of tea, it may be mentioned that, in order to maintain as even a quality as possible, as the tea is drawn from the bins, it is taken from the bottom, and then, when extracted, is thoroughly mixed, so that one day's manufacture is not sent out by itself, but several days' teas are mingled. The bins are capable of holding from 80,000lb. to 90,000lb. Next comes the packing, and exceedingly interesting it was to watch the Indian children making up pound packets. It was very quickly done, and by a simple contrivance hit upon by Messrs. Hulett, which they find far more satisfactory and expeditious than many patent methods they have tried, lead-paper is wrapped round an oblong box into a capacious saucer, on which the weighed-off tea is poured. The wooden box fits into a receptacle in the table, a wooden hand lever forces and packs the tea through the box, which is then withdrawn from the lead-paper, the package is sealed and relieved from under the table, coming out neatly made-up. The process is very rapidly executed, some 16 or 17 children being able to pack 4,000 lb. in the course of a day, and up to 6,000 lb. of fine tea The weakest feature at present is the weighing, the scales employed not being satisfactory in the interests of the firm, though the public will not grumble. An instance will explain why. At Port Elizabeth recently, the Customs authorities weighed a pound packet and found it half an ounce too heavy, and a 11 lb. box was found a little too heavy, with the result that duty had to be paid on more than was actually sold to the importer. Of course the consumer gets the benefit.

Conversation with Mr. Hulett elicited further interesting information. An experienced tea planter from Ceylon, who last week went over the factory, assured Mr. Hulett that there was not a factory in the whole of Ceylon capable of turning out as much tea as Kearsney, whose output this season will be 750,000 to 800,000 lb. Towards this Kearsney and its sister estates will contribute 450,000 lb., while other estates from which tea is purchased will provide the balance. The factory, as a fact, is capable, by arrangement and with appliances on Messrs. Hulett & Sons' other estates, of manufacturing a million and a half pounds of tea; yet the drying room will probably have to be enlarged next year. The other estates are Kirkly Vale and Sprowston, the latter having been purchased from the late Mr. T. Peachey, and the three are contiguous, and altogether about 1,000 acres are now planted with tea. Leaf is also purchased from 10 other growers. Messrs. T. Hindson & Co., likewise large growers and manufacturers, whose tea is also well known are neighbours of Mr. Hulett's. There are five kinds of tea placed on the market, viz.: Souchong, Pekoe Souchong, Pekoe, Flowery Pekoe, and Golden or Orange Pekoe. The Souchong has to be made to undersell the lowest and cheapest tea that can be imported into Durban in bond, but all Natal teas are cheaper relatively than bond teas imported. It will probably be asked as a question of curiosity how tea growing commenced in Natal. The failure of coffee was the cause, compelling people to look for other means of living. Tea had been growing after a manner in the Colony for years. The first curator of the Durban Botanical Gardens planted it at Tongaat, and a few others also planted it. It was known to grow well, but they did not know how to manufacture it. Messrs. Hulett and Sons were the first to start it on a commercial basis, and Lyle and Reynolds at Kirkly Vale also entered upon the business. The first plants of the tea now grown were obtained from India in 1877, and from theedS Mr. Hulett planted his first five acres in 1880. seed was also obtained from Assam, and from the plants at Kearsney the seed has gone to almost all other estates in the Colony. Fortunately, so far, locusts have not seriously attacked tea, though they have nibbled at it. They attack the old leaf which is not used in tea manufacture, but the trees are thereby spoiled though not materially injured. The effects of locusts round and about Kearsney are most marked, trees that were an ornament to the grounds and to the landscape being stripped of their foliage.

OPENING CEREMONY: SPEECH BY THE GOVERNOR.

Wednesday was like a holiday for Stanger. Mr. and Mrs. Hulett had invited their neighbours and friends to be present at the opening of the factory, and to rejoice with them in the achievement. In the afternoon, therefore, a goodly number of ladies and gentlemen arrived at Kearsney, where they were warmly welcomed, and afterwards adjourned to the factory, where excellent provision was made. The large office was turned into a refreshment room, and a portion of the main room was curtained off and a platform erected. Here his Excellency Sir Walter Hely-Hutchinson performed the opening ceremony, being supported by the gentlemen whose names are mentioned above, while among those present were:—Messrs. Geo. H. James, A. S. L., E., and W. A. Hulett,

Mr. W. F. Clayton, Mr. F. Shuter (acting magistrate of Stranger), Rev. A. E. Howes, Dr. Jones, Messrs. H. A. Clark, W. F. Addison, A. F. Foss (clerk of the peace), Geo. Stewart, A. E. Jackson, T. G. Colenbrander, E. Essery, B. Balcomb, W. R. Hindson, Geo. Nicholson, Geo. A. Clayton, L. Moe, Arthur Bull, Carl Weber, &c.

Sir Walter Hely-Hutchinson, in opening the factory, said:—Ladies and Gentlemen—I daresay some of you will remember that in addressing the members of the Durban and Coast Agricultural Society, at the society's dinner at Durban last July, I dwelt at some length on the duty which rested on the colonists of Natal of continually seeking after the adequate development of the resources of the country. Taking, as I do, such a lively interest in this matter, it has been a source of peculiar pleasure to me to be able to accept Mr. Hulett's kind invitation to be here to-day, and to lend him what countenance and encouragement I can in the enterprise in which to-day's ceremony marks a new departure (applause). The tea industry in Natal, of which Kearsney is the leading exponent, owes its inception and its promising state of development mainly to Mr. Hulett's enterprise, energy, and steadfastness of purpose; and he has shown that he possesses in an eminent degree those qualities which are the necessary attributes of the pioneer colonist, and have given to our nation in these later years the practical monopoly of successful colonisation. You will, I am sure, gladly join with me in wishing well to Mr. Hulett's enterprise, and in anticipating for him and for his firm that full measure of success which his persistent efforts for the development of the country's resources deserve. This fine building in which we stand to-day is in itself a monument to our host's tenacity of purpose. Its predecessor, which was on the point of completion when I was here three years ago, was, as you know, burnt down last December with all that it contained, but its ashes were scarcely cool before a cable was on its way home ordering new materials and machinery, and a new structure has arisen within ten months on the ruins of the old one, larger I believe than its predecessor, and containing all the most recent improvements in machinery for the manufacture of tea, and fitted to deal with a crop twice as large as that which is now afforded by the present plantations. The year 1896 has been a trying one for Natal—drought and locusts last summer; political trouble in the Transvaal, which at one time threatened the peace of the whole of South Africa, and has arrested its development in many ways; terrible accidents by land and sea, which have brought mourning into many a Natal household; rinderpest threatening our borders, and even now a dearth of rain which promises, if long continued, to do serious injury to the growing crops. But the colonists of Natal have faced difficulties and have overcome them in the past, and they will meet the present difficulties in the same spirit. "'Tis not in mortals to command success: but we'll do more, Sempronius, we'll deserve it." These words, put into the mouth of a heathen, might well be in the mouth of a God-fearing, Christian man (applause). Providence helps those who help themselves, and I have that faith in the qualities of the colonists of Natal, amongst whom our host is to be reckoned as one of the pioneers, that I believe their conduct, under existing difficulties and drawbacks, will be such as to deserve the success in the development of this country which, under Providence, they will in the end undoubtedly achieve (applause). I ask you, ladies and gentlemen, to join me in wishing all success to our host (Mr. Hulett) and his great enterprise (applause).

Mr. Hulett expressed the pleasure it gave him to welcome the representative of the Queen on an occasion of that kind. They were all in Natal loyal subjects of the British Crown (applause), and whatever their position, it was for them to do their part in connection with the building up of the mightiest Empire in the world (applause). There were some amongst them who came from other portions of Europe, but they were all there as British subjects, endeavouring to assimilate into, he trusted, a large and mighty South African Empire (applause). However that might be, it gave him great pleasure to welcome them. He was an old colonist now. He came there nearly 40 years ago, and in spite of difficultis all round them, they had had but one motto, an that was, under any circumstances, always endeavor, if anything happen adversely, to take a step forward instead of backward (applause). He had to thank his friends and neighbours, and colonists generally, for the large amount of earnest sympathy in their serious loss 10 months ago. He hoped that, despite the difficulties surroundinghem them at the present time—there were difficulties arising from drought and locusts which gave them pause, and to ask whether after all they could overcome them—they would look back on what had been overcome, and remember that every cloud had its silver lining (applause). In conclusion, he thanked Mr. Murray, as representing the Government, for being present to countenance their enterprise, he thanked His Excellency for opening the new factory, and his many old friends for their presence.

The Hon. Mr. Murray, in reference to the remarks of Mr. Hulett in regard to Mr. Campbell, said they must realise that tea was no use without sugar. It afforded him great pleasure, on behalf of Government, to be present, and he endorsed every word his Excellency the Governor had said in regard to the industries of the Colony. He had done his little best in that direction, and the Government would do all it would to encourage Colonial industries. With regard to the many difficulties they had to encounter, to the Government those difficulties were far greater, for the burden was upon them, and they were looked to to help them. They did try all they possibly could to lessen those burdens and prevent further burdens falling upon them. With regard to the serious affliction—the terrible plague of rinderpest—threatening the Colony, he assured them that Government was doing all it could to prevent it. Should it come, they would do everything possible to prevent it spreading, and to alleviate and assist in any way those who suffered from the plague. They trusted to everyone doing his best, for it rested with every individual in the Colony to assist Government in carrying out the duties it had to perform. It would be useless to complain afterwards unless they tried to help in averting the trouble (applause). He endorsed all his Excellency had said in reference to Mr. Hulett's perseverance and energy. As a politician in the Colony once said, he was like an indiarubber ball: the more he was kicked the more he jumped. The more he had to contend with the more he rose to the occasion, to contend with it in that spirit they all admired. Not only was he assisted by Mrs. Hulett, but by a family of sons and daughters who took as lively an interest in the tea industry as Mr. Hulett himself. It was a source of gratification to him to see them assisting their father to develop so fine an industry (applause),

Mr. G. Payne, called upon as mayor of Durban, pointed out that Durban was essentially interested in this industry, for what proved successful in that district would benefit Durban. Therefore, the people of the Port were interested in Mr. Hulett's enterprise, and he wished to convey to Mr. Hulett his personal congratulations on the evidence before them of the enterprise he had shown. This was his first visit to the locality. He had often heard of the attractions of Kearsney, and he could truly say that "not one-half had ever been told." He was certainly much impressed with the beauties of the district. Mr. Hulett had resided and worked there for a good many years, and his efforts were worthy of the fullest admiration. Seconded by his sons, he had succeeded in taking the industry beyond the experimental stage. He had dealt with difficulties, and in a manly and courageous manner had erected a mill, for which he hoped Hulett and Sons would be amply rewarded. —*Natal Mercury.*

NOTES FROM THE METROPOLIS.

LONDON, Nov. 6.

An ex-Ceylon Colonist wrote to me some weeks ago that I must not leave London without paying a visit to the new offices in City Road of the farfamed

MR. LIPTON.

Such was my full attention, apart from this reminder; for, whatever feeling may have been aroused in the minds of Ceylon planters and other residents - ourselves among the number—in the early days of Mr. Lipton's connection with Ceylon tea, through his advertisements—tea direct from his estates, his use of "Ceylon" although his sales were chiefly if not entirely "blends" rather than the pure article and his picture placards of the island and Lipton's estates as if he said "I own or personify Ceylon tea"—yet, allowance being made for the ingenuity, imagination and enterprise of advertising lieutenants—there can be no shadow of doubt now about the enormous benefit conferred by this big capitalist and far-reaching distributor on our staple and local planting industry. In the first place, there is the capital he introduced (at a time when faith in Ceylon tea was not too strong in the City of London and Companies were few and far between) to purchase the Dambatenne and Pooprassie groups of plantations, and the first-class way in which he has since developed these properties, and fitted up model factories. No one can say that "Lipton" is behind any Ceylon estate proprietor in this respect. Then it is undoubted that few, if any, buyers of tea in "the Lane" (not to speak of Colombo or Calcutta) handle so much of Ceylon as well as Indian tea in the present day as does Mr. Lipton. The trade in Ceylon tea for his London open and bonded stores has grown to an enormous extent: we are now speaking of what *we have seen* during our visit. But even before then, we were aware that the great food distributor could not be honestly regarded as otherwise than a benefactor to the colony. Two stories we have been fond of repeating in and out of Ceylon of late years, as compensation for some sharp criticism in earlier times of "Lipton"'s system of working:—(1) An old planting friend, still in the island, brought out from Nottingham samples of "Lipton's teas" and coming to the *Observer* Office, arranged to breakfast with the editor at Mount Lavinia, in order to give a fair trial to the teas and to state the result——*condemnation*, as I fancy both mentally anticipated! The samples were of the 1s. 4d. and 1s. 7d. teas—the latter about the best sold of Lipton's blends and our cups from it were sufficient to convince both the critical planters and myself that there was no room for condemnation—the tea was simply about the most palatable and refreshing we had ever drunk. I then learned and admired Mr. Lipton's enterprise in getting water from all the large British cities and preparing his blends (as experts only can) to suit the different waters. [N. B.—There must be something in common between the water of Mount Lavinia and that of Nottingham!] Such enterprise deserves, as well as commands, success. Story No. 2.—Another old Ceylon planter and friend, set up in business as Agent for a Ceylon-London tea distributing house in Dublin: Lipton had not been long at work before he had to stop, because, to use his own words:—"Lipton had started next door and sold a *better* tea for a *less* price than he had to offer," "Such testimonies were from men who desired to be critics rather than admirers of the great dealer. Here again of his enterprise in Ceylon as capitalist, we have been hearing lately that during the present year he will have added five or six additional plantations to his purchases of properties in Ceylon.

With some such mingling of thoughts in our mind, we made our way the other evening to City Road expecting to spend half-an-hour or an hour in running over the new offices. But we little anticipated their extent or what we had to see; for, although every facility was shown to us, first, by Mr. Lipton himself, his Secretary, and the separate managers of half-a-dozen Departments, and although we literally walked through with very little standing about—indeed merely glanced in at the doors of certain working rooms or stores, it took us from 3·30 to well-nigh 6·30 p.m. (the establishment cleared at 7) to complete our round, with only one break for a cup of tea and refreshment with Mr. Lipton and his tea manager. First of all, the conspicuously handsome block of buildings, with its huge flag, and huge stone-cut letters "Lipton" beneath the central front turret as well as on the doorway, arrested attention. The site, though a little out of the best of the ordinary city-goer (at least among the colonists at home) is for the business no doubt a highly convenient one. It is most advantageous in occupying the corner between two roads, so that the extensive accounting offices below, and the many Departments above in the main block are most admirably lighted from two sides. No doubt engravings of these offices are familar to many Ceylon readers; for, alreay such have appeared in *Black and White*, where the offices were described as "an important addition to the architecture of the district—designed by the late Mr. Mark W. King of Fenchurch Avenue, the buildings have been constructed of white stone and red brick and they present an imposing aspect. The *Illustrated London News* pays a higher compliment; for it not only offers a first-class engraving, but the following liberal amount of letterpress:—

A GREAT INDUSTRIAL ENTERPRISE.—An imposing addition to the architecture of the great thoroughfare known as the City Road has been made by the completion of the new Central Offices of Mr. T. J. Lipton, "the Tea-King," as he has been dubbed by his friends. The new buildings, which have been erected by Messrs. Grover and Son, under the guidance of Messrs. King, the well-known architectural firm of Fenchurch Avenue, are of red brick and white stone, with a spacious doorway flanked on either side by grey marble pillars. The staff of more than three hundred men and women engaged as clerks is accommodated in a fine saloon with a floor area of some six thousand feet and a handsomely panelled ceiling. Smaller offices conveniently arranged flank this saloon, the most notable being Mr. Lipton's own private room, which is panelled with no less than ten different kinds of wood and tastefully fitted in every respect. The most striking feature of the first floor is the advertising department, wherein are filed twelve hundred newspapers containing advertisements of Mr. Lipton's wares. Other offices on this floor are allotted to Mr. Lipton's own staff of architects and solicitors, whose services are retained for the building, leasing and other operations constantly required by Mr. Lipton's great provincial organisation. On the second floor are printing works, in which some two hundred hands are engaged in the printing of posters, circulars, and other "copy," and not in one language only. On a still higher floor all the tin and wooden boxes necessary for the proprietor's many wares are manufactured by a staff of skilled workmen. Truly, to explore such a building, to see its ample accommodation for a thousand employes of one kind or

another, is to endorse to the full Mr. Lipton's motto ' Labor omnia vincit." As a pleasant illustration of the cordial relations which prevail between Mr. Lipton and the great army of workers engaged in his service, it is worthy of note that the enterprising proprietor has been presented with a portrait of himself, painted by Professor Herkomer, for which his employes in all parts of the world have subscribed.

Next, the *Illustrated Sporting and Dramatic News* goes one better still both in engraving this several "Lipton" blocks in the rear of the main new offices, and in letterpress which is still fuller in description. This, however, we need not repeat; for our one quotation already saves the needs of elaborate description at our hand. We may premise by saying that in many respects Mr. Lipton himself as the centre and head of the vast establishment—and a business literally world-wide—commanded most interest. He is still a young man*, tall, lithe and alert; but without any over-powering sense of force of character or intellect visible; and yet few men, to judge by results, can excel him in keen business perceptions, power of organisation and ability to select suitable deputies in the different departments and agencies of his widely spread enterprise, and to attach them to himself. In this last faculty of selection, must rest the secret of a great deal of his success. Manager after manager was introduced as being with him "from the beginning" or for a long number of years and the feeling on both sides appeared most cordial; while all we said indicated that better accommodated employés from the Managers and Accountants down through many rooms of men, women, girls and lads, to the ham curers in the last block, are scarcely to be found in the City of London. Surrounded by every modern appliance in telephones, electric bells, clerical aids, &c., in his own room, Mr. Lipton is now enabled, to devolve his duties at every turn, so as, if he so cares, to be a man of comparative leisure; but this, I gather, he does not desire; for, though he takes an interest in horses (and has full stables)—in his gardens and conservatory, he is likely to be able to show tea, coffee and cacao plants in all varieties there erelong—his devotion to business continues unabated: and in referring to a private offer (of a large amount) made to him by a well-known London promoter of Companies, Mr. Lipton indicated his answer to be a question as to what he would do with the money—a man of the simplest tastes, delighting too in work and in being the active head of a concern giving useful employment to thousands. Then again to his credit be it mentioned that though frequently pressed, and tempted by assurances of large returns and promotion money, Mr. Lipton has never become director or shareholder in any Company or concern beyond his own—quite enough for one man in all conscience. Since writing so far, I have seen a London *Evening News* with its No. XXXI of "Men who have earned success"—"Mr. Lipton, Purveyor of Tea to H. M. the Queen." I don't know if this has been laid before your readers; but two passages will bear repetition even now:—

Twenty-six years ago there were tears and hand-shakings abundant in a little house in "auld Glesca." Young Tom Lipton was going away—so the rumour ran down the street—to make his fortune in America. Tom's parents were in a small way, and it behoved their son to make a push and exert himself for them, So he bade them "guid-bye" tore himself away, and took a steerage passage in an American liner. He soon settled down in the States, and regularly as clockwork came remittances for the old folk at home. Several years passed away, and at length young Lipton, finding himself in possession of a hundred pounds or so, returned to Glasgow, and opened a small provision shop there.

But how many people start small provision shops and never get any "forrader"! Tom got "forrarder," though. He used to make his customers "larf" did Tom. Funny cartoons, funny placards, funny advertisements made the canny buyers smile and say that young Lipton "gaed at it wi' a vir." For instance, one of his best cartoons represented the members of a defeated Ministry entering Lipton's shop by one door in a sadly dejected condition, all limp and wobegone, miserable sinners indeed. But cheek by jowl came another cartoon depicting the exit of those politicians in a highly mirthful condition, smiling all over their faces, and

CLUTCHING PACKETS OF LIPTON'S TEA

with the result that that small shop proved to be the nucleus of the biggest provision-dealing establishment in the world!

Mr. Lipton is a little over 40, strongly built, and 6 ft high, though his erect carriage, which would do credit to a Lifeguardsman, makes him look taller. His hair and heavy dark moustache are tinged with grey, and he has keen blue eyes which gaze in a penetrating way from beneath his arched eyebrows. His face is one of great power, the expression firm, yet most kindly. In short, he strikes one as being a man who was born to control large forces, and carry on a bewilderingly huge business.

MR. LIPTON IS A BACHELOR,

for his business takes the place of wife and family. Every morning he is at his office early, and rarely leaves it until late at night.

As to the Departments in the City Road Offices, I will only very briefly refer to a few items that made an impression, leaving out the offices *par excellence* for managers, solicitors, architects, accountants, &c. The printing department was specially interesting with its 200 Scotch workmen and great variety of machines, some very unusual for the printing of coloured labels on tin as well as paper. The machines for forming cardboard, as well as tin, packages of all sizes, were most ingenious, mainly worked by girls who, paid by "piece work," in some cases did 15,000 a day—that is of one particular operation. We ask "What is done with the strips of tin left of the sheets blocked out?" "Sent to Germany for a chemical process which takes off the tin for solder, while the iron strips are utilised for mattresses." The army of coopers making ready the chests—for tea export for America (North and South), Africa, all parts of Europe, &c.—need only be mentioned, to say that the lead saved in chests from Ceylon, India, &c., brings in £100 a week. "What stock of tea do you usually store here?" we asked the experienced suave Tea Manager and chief buyer, Mr Smith. "Not fewer than 50,000 to 60,000 chests of all kinds"—and as we passed through long rows and lofty piles of Ceylon tea chests, it seemed to our "Directory"-trained eyes, as if nearly every estate in the island was represented! The 500 to 600 young women busy at long tables in a comfortable room, weighing and filling tea-packets, each "table" paid by its work with a bonus to the "tables" that turned out most (so requiring little or no supervision) was an interesting sight. The tea-tasting room, with its staff of experts, was more extensive than any we have seen "in the Lane," no doubt here the "blends" for different cities and markets have to be tested and decided on.

But in respect of TEA, what surprised me was the

* Over 40 years, I see it stated, but I should have said not more than 35 by his fresh looks.

BONDED STORE,

with officers of H.M. Customs in uniform in charge, Mr. Lipton's employés working inside. I am not sure if any other London Tea dealer has a private Bonded Store on his premises? Here, of course, only tea for re-export for foreign countries or colonies—and therefore duty free—is allowed in or out. And here I may beg special attention on the part of Ceylon planters to the business which Mr. Lipton has developed. We saw a huge array of chests marked for *New York*, *Chicago* and *Toronto* and learned that his American tea-trade in charge of his former Calcutta manager is developing rapidly and entirely to Mr. Lipton's satisfaction. The process of educating the American palate to understand the difference between good and bad (and even artificially treated) teas is going on steadily. For St. Petersburg, where Mr. Lipton has now a highly successful branch, a single order for 3,000 chests of tea was being executed. Besides these we saw considerable consignments of tea chests in this warehouse marked for Durban and Port Elizabeth in South Africa; Buenos Ayres, Rio de Janeiro and Valparaiso in South America; Barcelona and Hamburg and Alexandria. Here is enough of indubitable evidence to show how wide a tea distributor Lipton is. It is specially interesting to learn the principle on which he began and continued business: *all profits to go in advertising*—the secret of so enormous a business being built up. [It reminds one of the American storekeeper who, coming into a big legacy, thought he would throw away £40,000 in advertisements to make his name known as his "pile" was made—the result being that he had to arrange forthwith to double his stores and employes!] In advertising, Mr. Lipton told me he never now spends less than £1,000 a week: sometimes £1,500.

THE COCOA AND CHOCOLATE DEPARTMENT,

a separate block, was extremely interesting, had I had time to watch the various curious machines and modes of manufacture designed by the Manager, Mr. Rozairo (a Frenchman), more closely. In all branches of

CONFECTIONERY

as well as in so many staple articles of

FOOD

of baking—pies, etc., as well as sausage-making, ham-making—Lipton excels: in fact, he only added tea, coffee, cocoa, and chocolate, to these of late years. The sample-room, made up with French taste for confectionery and tinned goods, is an attractive sight. A separate packing-room was devoted to orders from the Army and Navy. Another to butter and cheese.

I omitted to mention the huge revolving cylinders in one room for

BLENDING

the teas with the hoppers in a floor above, into which chests are literally emptied by the dozen. The weekly sales are said to equal 200 tons from Lipton's stores.—I must, however, close this hasty and discursive notice of the result of my three hours' wandering and observation: let anyone who thinks I have said too much go and see for himself and he will conclude the half was not told me. Again in South London there is a separate establishment, I was told, where 700 women—in all, perhaps, 1,000 employes—are engaged in the preparation, packing, etc, of jams and jellies; and yet there appeared to be no one so cool and unconcerned in the City Road offices as the responsible and sole head of this most world-wide business—Mr. Lipton himself.

THE CALEDONIAN (CEYLON) TEA PLANTATIONS, LIMITED.

Report of the Directors to be submitted to the Third Annual Ordinary General Meeting of Shareholders, to be held at 11, Old Broad Street, in the City of London, on Wednesday, the 11th day of November 1896, at 3 o'clock p.m.

The Directors beg to submit the accounts for the year ended 30th June, 1896, duly audited.

The profit and loss accounts, after payment of interest, London charges and income tax, and writing off £250 for depreciation, and £200 the balance of debenture issue and transfer of estates expenses, shows a credit balance of £2,014 8s 4d for the year, to which has to be added £334 18s 2d, the balance brought forward from 1894-5, making a total of £2,349 6s 6d.

The directors recommend the payment out of this amount of a dividend for the year of 12 per cent, free of income tax, which will absorb £1,800, and leave a balance of £549 6s 6d to be carried forward.

The yield of tea from the estates has been as follows:—

Venture	193,676 lb.
Selegama	77,140 lb.
Total	270,816 lb.
Against an estimate of ..	270,000 lb.
and a total crop in 1894-5 of	240,900 lb.
and 1893-4 of	235,237 lb.

The yield of coffee from Venture is now reduced to a very small quantity.

The total acreage and the area planted in tea are as follows:—

	Total.	Tea in full bearing.	Tea 1 year and under.
Venture ..	406 acres	389 acres	——
Selagama ..	934 ,,	198 ,,	225 acres

On Selagama 77 acres more have been cleared and will be planted this year, which will make the total area of this estate planted in tea 500 acres.

At the same time that the yield of tea has increased, there has also been a rise in the net average prices year by year, although the average price of the total market sales has been declining.

The crop estimates for 1896-7 are:—

Venture	200,000 lb. tea.
Selagama	82,000 ,, ,,

The last advices report both estates in good condition, and the yield of tea leaf fully up to that of last season at the same time.

In accordance with No. 96 of the Articles of Association, two of the Directors, Mr. William Gow and Mr. H. P. Hanssen, retire from the Board, but, being eligible, offer themselves for re-election.

An auditor has to be elected in the place of Mr. A. N. Frewer, A.C A., who has accepted an appointment requiring his entire attention, and therefore does not offer himself for re-election.—By order of the Board, H. F. STANLEY, Secretary.

11, Old Broad Street, London, E.C., 31st, Oct., 1896.

A CEYLON PLANTER ON HIS JOURNEYINGS IN EUROPE AND SOUTH AFRICA.

We have been favoured with the following interesting communication from Mr. John Fraser of Brae who has just returned from a trip to Europe and South Africa:—

Nearing Galle, Nov. 20th, 1896.

Impressions formed on a run from Ceylon via England and Scotland, the Continent of Europe and South Africa—by a Ceylon planter:—

The "Himalaya" steamed into dock in London on 1st June after a most pleasant and agreeable passage from Ceylon—and there we parted from those we knew there would be little chance of

ever meeting again. But such is life. After a few days in London I took train for Aberdeen, where I had the pleasure of meeting a number of old and young Ceylon folks:—Dr. Craib and family, Mrs. Anderson, Bandarapolla, and family, Mrs. Joseph Fraser, Damboolugalla, and family, Geo. Maitland and Angus, both late Kelani Valley men; Mrs. Fraser, Abbotsford, and family, Charles Forbes, W. Jackson, of Roller Fame, Mrs. Davidson and daughter, late of Madulkele, all living in the West End and looking well, and all apparently enjoying the bright side of life! Taking a run further north I met more Ceylon folks. At Turriff I met James Beaten and family, who had purchased a farm and settled down, but had not given up all hope of visiting Ceylon at some future time. I next visited Redhythe, Portsoy, the home of the late Geo. Wighton, but whose remains now lie in the Churchyard there. Peace to his memory. Not a better hearted or more honest fellow ever came to Ceylon. A run through Craigellachie to Coulnakyle brought me to the present home of the Shireffs of Aldie, Bogawantalawa, who are spending the summer there. Mrs. Shireff had not been well, but was better, and all hoped to be back in Ceylon early in December. My next run was to Stonehaven to call on the Ross's of Venture. Mr. Ross, senior, had not been well but was better and had come from London to spend the summer with his family, who were all living there. Mr. Ross, junior, hoped to be in Ceylon in November.

The weather during the early summer was most favourable for crops, but rather too much rain for the holiday seeker. However, on the whole it was considered a fairly good season for all. After a couple of months in Aberdeenshire sightseeing with some golf and shooting added, I left Aberdeen for Glasgow (but not on my bicycle as I found the roads *too narrow*!) I met there Mr. Polson of tea box fame, also Mr. Davidson, late of Rajawella, Ceylon. Both told me tea was making great strides in Glasgow, and that the metal chest was to be the chest of the future. I went to look for some friends who left Ceylon for Carlsbad some time before the "Himalaya" left Ceylon, but they had not then returned. In Edinburgh I had the pleasure of meeting Mr. D. Kerr, of Abergeldie, and James Brown of Hatton, both looking well. The former when I met him seemed rather in a *swither*, but would no doubt get himself up to the scratch before he returned to Ceylon! The weather in the north of England appeared to have been much the same as in Scotland, but as you get nearer London there had evidently been a great want of rain. The crops were poor, and a very little pasture for cattle anywhere near London Guildford and Cheltenham ways being specially dry. At the former I had the pleasure of meeting Mr. H. L. Forbes at his bungalow, one of the loveliest spots in England. They were just preparing to leave next day for their holidays, and were busy packing up. Mr. Forbes was expected to join his friends—Messrs. Cross, Kerr and Porter at some fishing in the highlands, while Mrs. Forbes and family were going to the sea-side for their holidays to be joined by Mr. Forbes later on. At Cheltenham—the great seat of learning, where I understand more young men pass into the Army and Civil Service than from any other College in England—I found Mrs. Mackie, of Great Western, and family settled down there for their education. All the schools and colleges were then closed being the holiday season, but judging from what I saw and had explained to me of the methods for exercise, the training of the pupils must be excellent. We had a splendid drive out as far as the source of the Thames, returning through a very pretty part of the country. I was unfortunate in missing some of my "Himalaya" friends, who had gone north some days before my arrival in Cheltenham. During my week's stay at London I came across several Ceylon men:—Sir John Grinlinton, Messrs. J. L. Shand, and Thomas Dickson, senior, Mr. and Mrs. Hugh Parry, Messrs. W. Taylor, W. Jenkins, C. and W. Strachan, Colombo I met, Messrs. E. S. Grigson, A. Orchard, J. Forbes. J. Sinclair, W. Forsythe, Millingtons, F. D. Mitchell, Capper and others, at the Jameson-Aspland marriage, where we did our best to cool the air by drinking the health of the bride and bridegroom in iced champagne! All these old friends looked well, and appeared in the best of spirits.

The weather in London was very hot during the summer, and very dry. I took a run through Belgium, Holland, and Germany to Frankfort and Homburg *via* Cologne and the Rhine, returning to London *via* Paris. Notwithstanding Homburg being the watering-place of Royalty, I consider it in many respects a long way behind Carlsbad. For one cure effected at Homburg, I should thing there were ten at Carlsbad. But fancy not being able to get a decent cup of Ceylon tea on the Continent of Europe!!! There is evidently a lok of room to exploit Ceylon tea there as well as in America. Leaving London by the 11·40 train for Southampton on the 15th of August, we were all aboard the ss. "Norman," and on our way to South Africa by 5 p.m. The leaving docks of a Union steamer from Southampton is a scene not likely to be soon forgotten, many last looks of friends of one another that day. When once on board, all farewells and wavings of handkerchiefs were soon over, but by many not forgotten. Three days' run brought us into Madeira harbour and during the few hours' stay a good many had a run up by train, which is on the Swiss principle on the Rigi mountain, and down by the Sleigh, which appeared to come down much faster than the train went up. After a look into the King's Palace and the principal street all went on board. The houses on the hillsides appeared covered with vines and grapes. Madeira is evidently the home of the vine. We had now to make up our minds to see no more land till we reached Cape Town, twelve to thirteen days hence. We had the usual sports on board in which most joined and made things pretty lively during the rest of the voyage. Captain Molony and the officers did all they could to make things pleasant for the passengers during what may be termed a short but pleasant run to Cape Town. On arrival there we were delayed a short time till the Governor, Lord Rosmead, had landed, there being a large escort of military drawn up to receive him on landing. Lady Rosmead was there to meet her husband. After their departure it did not take long to clear the ship of passengers. Both Governor and Lady Rosmead look very old and very different from the fine handsome couple they were when they landed in Ceylon over thirty years ago. The Governor appeared to be in weak health, and never entered into the spirit of the sports. He told me he had very pleasant recollections of his Governorship in Ceylon.

After a few days in Cape Town, driving and sight-seeing, I left for Kimberley in company with a namesake, and broker from Glasgow who had come out on a health trip, and like myself to see the great mines of S. A. We left Cape

Town on the 4th of September, and after two days and nights' travelling reached Kimberley. We rose some 4,000 ft., but through a very bare although rugged country—no forests of any sort to be seen along the line. Farmhouses were to be seen, but generally at long distances apart, showing very little cultivation. Of course the whole country I presume is suitable for grazing, and the only cultivation necessary would be for foodstuffs—food for the people which is principally mealiés—Indiancorn—and forage for cattle on transport, and it may be exported to neighbouring states. We spent a most interesting two days at Kimberley after a journey of about 750 miles from Cape Town. We spent an afternoon below inspecting all the mines, and next morning went through the diamond stores and sorting room, where we saw the previous week's diamonds being sorted, valued and packed for England and other countries—valued at about £90,000 sterling. In the afternoon we went to see the crushing, washing and the rough sorting, before sending to the valuing and assorting rooms for export. Since the de Beers Company was formed there is little business doing in the town; the small Companies are now rolled into one large Company, which rules the diamond market very much as it likes! Our next stage was Bloemfontein, in the Orange Free State, perhaps 300 miles from Kimberley, and at an elevation of about 6,000 feet. The town is small, but quite English in appearance, Aberdeen being well represented by a Doctor, a Lady Principal of College, as well as teachers and other business men. I understand Dr. Polson, a brother of Mr. Polson, of Alnwick, Kandapola, lives at Riddesburg, some distance out of town. I there met Mr. Smith, dairy expert, and Mr. Murray, Minister of Lands and Works in Natal. Both gave me introductions to their friends in Natal, for the better enabling me to see the country. We then left for Johannesburg, in the Transvaal, the young London of South Africa, and the centre of the great gold-mining districts. I am told that nine years ago there was not a house on the plain, where to-day you find a town of 150,000 inhabitants, and thousands pouring in monthly from all parts of the world. Judging from the shops in some of the principal streets you might fancy yourself in Regent Street, London. We visited several mines in the different districts. Robinson, New Clunes, Vogulstraus, Durban, Roodepoort, Cyanide Works, Clydesdale Coal Mine, Heidelberg, and other districts, as well as the Town of Johannesburg, which is now of considerable dimensions. The rock from which the gold is taken in the Rand district is what is called *Banket*, more resembling porphyry than granite or quartz, and is very rich in gold and extracted by the Cyanide process after crushing. There is no doubt a great future for the Transvaal, Matabele, and Mashonaland (Rhodesia). We visited Pretoria and the historic jail of Jameson fame. Saw the President and was promised an interview, having got letters of introduction, but he was called suddenly away to the country that afternoon by telegraph. We then left Johannesburg, my friend, to return home by the "Norman," and I to make my way to Durban, leaving Park Station, Johannesburg, at 7 p.m. We reach the boundary of Natal next morning about daylight. Charleston station is not far from the two historic spots—Boer and English—*Majuba Hill* and *Langs Neck* of 1880-81. The elevation at this point in Natal must be over 6,000 feet, and the country from here down to Pieter-Maritzburg appears most suitable for pasture. Large droves of cattle, horses, sheep and goats are to be seen grazing, and all look remarkably healthy compared to the half-starved appearance of the cattle on the Transvaal side of the border. Lower down in Weenen and Maritzburg counties there is more cultivation, farming being carried on to a very large extent in these two counties, and most farms are said to be paying well. There is also a portion of this land rich in coal. Several mines already opened are paying well, but for want of labour and rolling stock on the railway, the owners are unable to send it down fast enough to meet requirements of steamers calling at Durban. Steamers at present are lying for a week at a time waiting for coals, while one mine, I was told, was capable of putting out 800 tons a day. I called to see an old Skene man, Mr. Masson, who is now Surveyor-General in Natal, and lives with his family in Maritzburg. We called in the afternoon to have tea with Sir Walter and Lady Wragg (late of Ceylon). Sir Walter has very keen recollections of his Ceylon days. He told us his knowledge of Tamil and Sinhalese had been, and was still, very useful to him. Only the other day a Sinhalese man came to him in trouble and was so pleased when he was able to explain his troubles in his own language. Sir Walter takes a great interest in gardening; he has a very large collection of roses and in great variety, as well as many rare flowers. He is looked upon as a first-class judge and specially in native cases.

The journey to Durban shews some good scenery as you get near the Court. Durban is a very pretty town, but especially the Bereu where most of the towns-people live. On the face of a small hill which overlooks the town and the sea beyond, tramcars run all day to and from the point where the ships discharge and load, about 2 miles from the Town-house, and to the Bereu other 2 miles but in the opposite direction. The ports along the East Coast of Africa are so often blocked by the accumulation of sand on the bars that it is impossible to keep regular dates of sailing. From Durban we went to Delagoa Bay to discharge cargo. This is the terminus of the Netherlands railway from the Transvaal, between the Portuguese and Netherlands. I have never seen such mismanagement and such careless treatment of goods. Judging from appearances some of the goods must have been lying there for years and exposed to the weather all the time. The Dutch and Portuguese ought to be ashamed of themselves.

Beira was our next and last port of call, and will eventually become the terminus of the Cape Town, Kimberley, Mafeking, Matabele, Mashonaland, Salisbury Railways and through the Portuguese territory to Beira, a distance, I should think, of over 2,000 miles. It is to be worked I understand by the British Government. And now in bidding good-bye to the "Clan Menzies," I have to thank the Captain and his officers for making what might have been a very tedious and tiresome voyage a most pleasant and agreeable one.

J. F.

CHAFED SKIN, PILES, SCALDS, BRUISES, CUTS, STINGS, NEURALGIC and RHEUMATIC PAINS, SORE EYES, EAR-ACHE, THROAT COLDS, and SKIN AILMENTS quickly relieved by use of CALVERT'S CARBOLIC OINTMENT.
Large Pots 13½d. each (English rate). Sold at Chemists, Stores, &c.
F. C. CALVERT & CO., Manchester.

DATE PALM GROWING IN CEYLON.

In "The Ceylon Forester" for this month there is quoted an article from an Indian paper in which it is suggested that numerous sites on tea plantations, such as in and around the cooly lines and factory buildings, sides of roads, tanks, &c., might be utilised by cultivating the *Phœnix dactylfera* or date palm. The editor of "The Ceylon Forester" adds :—

Surely it would be well worth while Government trying a small experiment of an acre or so, in the dry low country of the Northern or Eastern Provinces The trial would not cost much and if successful, it would open up a grand new industry for the natives as thousands of Rupees worth of dates must be imported annually.

THE SPRING VALLEY COFFEE COMPANY, LIMITED.

5, Dowgate Hill, London, E.C., 7th Nov. 1896.

Sir,—I am instructed to inform you that the Board have decided not to pay an interim dividend for the past half-year.

The coffee crop for 1895-96 has been almost an entire failure, and the outlook as regards coffee for 1896-97 is, at the present time, little, if any, better than last year.

Tea prospects continue good, but the profits from the comparatively small acreage at present in bearing are severely taxed by the necessary expenditure on the upkeep of young tea and the extension of the tea area.

Under these circumstances the directors have decided to postpone the payment of a Dividend until the end of the financial year.

The area under tea is as follows :—

Over 5 years old	..	741	acres in bearing.
Planted November—December	1892..	53	770 acres not in bearing.
Ditto	1893..	243	
Ditto	1894..	179	
Ditto	1895..	145	
Now being planted	1896..	150	

From the above statement it will be seen that the extension of tea is being rapidly pushed on. The directors regard this as of the first importance, as until we have a large area of tea in bearing, steady profits cannot be relied upon, and although the cost of extension and upkeep of young tea is a heavy burden on the revenue, the intrinsic value of the property is much increased, and future profits assured so far as is possible.—I am, sir, your obedient servant, J. ALEC. ROBERTS, Secretary.

MARKET FOR TEA SHARES.

Nov. 12.

A large and increasing business continues in progress in the shares of most of the Indian Tea Companies, and the official list shows a considerable number of advances in quotations.

Mincing Lane, after the rest of Lord Mayor's day, has firmed up, and notwithstanding the largest day's sale on record of yesterday, prices have strengthened rather than weakened. This rise in price,however, is required in order to compensate planters both for the fractional rise in the cost of few production resulting from the higher cost of the rupee and the increased cost of wages incurred by the rise in the price of rice owing to the unpropitious weather in some of the rice-growing districts.

Meetings.—The Associated Tea Estates of Ceylon, Limited, and the Lanka Plantations Company, Ld., held their meetings this week. Reports of the same appear elsewhere. The Empire Company calls its first statutory meeting for November 20th, at 2 p.m. (Winchester House.)—*H. and C. Mail*, Nov. 13.

PLANTING AND PRODUCE.

(From the *H. & C. Mail*, Nov. 13.)

THE SUPPLY OF TEA.—A correspondent of the *Grocer* who has great faith in his own capacity to see round a corner, forecasts the tea market as follows: "At this period of the year, when the Mincing Lane market is supplied to overflowing with Indian growths of tea, it is customary for many wholesale and provincial buyers to 'rush in' and purchase abnormally large stocks under the impression, no doubt, that prices are about bottom. We are in the 'period of glut,' and at any moment may have a sick market when supposed cheap purchases may suddenly look dear. Allowing for the increased home consumption, there is every indication that supplies from our colonies of India and Ceylon will fully keep pace therewith. Taking as examples the production of several large Indian companies as 'cabled' up to end of October against output in previous season, there are indications of a largely increased crop. The figures furnished herewith relate to two Assam tea companies and one Sylhet company :—

	Production to end of October. 1895.	1896.
Doom Dooma Tea Company (Limited)..	1,595,600	1,752,960
Jokai (Assam) Tea Company (Limited)..	2,911,520	3,233,440
Lungla (Syhlet) Company ..	1,403,120	1,630,800
	5,910,240	6,617,200

Showing an increase of nearly 12 per cent. The usual telegrams respecting cold and unfavourable weather, early closing down of some gardens, &c., are to hand ; still, as Indian tea is growing over such an enormous area, many districts will doubtless be plucking greatly increased quantities, to more than compensate for any slight falling off in other parts. Ceylon is an important factor, and the ever-increasing supplies from that sunny spot should not be lost sight of. Within two or three months we may expect supplies gradually increasing from nine to twelve millions per month, and of tea that will not keep but must be sold quickly after his arrival. Your readers who work out the figures for themselves will probably come to the conclusion that there is plenty of tea before us, and that buying for requirements means keeping prices on as favourable a basis as at present for a long time to come."

TEA AND BROKERS.—In an article under this title which appears in our Calcutta contemporary, *Capital*, the writer advocates the selling of a larger quantity of tea in Calcutta. He says in the course of his comments, which we confess we do not agree with, that—"It will have been noticed that a very great number of companies' teas have been withdrawn from sale and shipped from London to deal with, and the reason is not very far to seek. We are aware that the greater number of planters prefer having their teas sold in Calcutta, as they know what they are doing in a very short time instead of living in uncertainty as regards the quality of their teas, till one might say half their crop was made, but here comes in the handicap. The London agent likes the teas sold in London, as no doubt there is a 'picking,' and when the local management ventures to protest mildly that it would be preferable to sell in Calcutta, the reply comes back; how can your teas get justice done them when your broker is both buyer and seller? And, surely, the trade is large enough now to admit of the business being divided ? To the beginning of October altogether 343,100 packages had passed the hammer this year, and this number, we feel sure, would be considerably increased had we a distinct division of the business into buying and selling departments. We feel certain that it must come sooner or later, and the sooner the change is effected the better it will be for all those concerned. Of the 343,100 packages that changed hands, taking a package as equal roughly to 80 lb, about 29 million lb. out of a total export of nearly 70 millions, about 40 per cent., were handled. Dividing

this evenly amongst the six firms of brokers it gives an average of nearly five millions to each, which meant handling, lotting, sampling, &c., of about 62,500 packages. We feel certain that were business divided as we suggest this quantity would be considerably increased, and we commend the matter to the Indian Tea Association and Chamber of Commerce, feeling sure that it will receive the attention it deserves."

PARAGUAYAN TEA.—Apropos the fact that as we announced some months since, mate or Paraguyan tea is advertised in London, the *Pall Mall Gazette* is quite fervent. It says: "Shall we import our tea from South America instead of India and China? Shall we grow it ourselves? Shall we suck it up like a straw drink through a bombilla? If mate tea is introduced to this country we may do any or all of these, and there are those who are trying to introduce it. It is the drink of the Paraguayans and the Brazilians, and of the Europeans who dwell in their midst, and there is not wanting evidence in its favour—the evidence of medical science, the evidence of travellers, the evidence of those at home who have had the good fortune to try it. Those who speak with authority on such subjects declare that it contains a nitrogenous principle which is both nourishing and sustaining; that it does not tax the digestive powers; that it contains more theine than tea itself and less tannin; that, for many other reasons, it should fight tea and coffee on their own ground and win easily. Let the capitalist scent a new industry, the tea-growing East look to its laurels, and the Chancellor of the Exchequer think of transferring the Customs duty." The increasing favour of tea with the consumer and the importance of the Indian and Ceylon tea industry have developed some fanciful views as to the possibility of a rival product, but we do not think this competition will come in the form of Paraguayan tea. Up till now the shares of Indian and Ceylon tea companies have not shown signs of weakness, nor are the public, so far as we can gather, showing any keen desire to be nourished and sustained by mate, either with or without the bombilla.

ONLY A MODEST SUGGESTION.—We sympathise with the editor of our Calcutta contemporary *Capital*, who mentions that a Calcutta journal has published a list of Calcutta tea companies taken from *Capital* without acknowledgment. We know something of the feeling called into play by that kind of thing, and have borne with fortitude a long series of offences with but an occasional remonstrance. Articles, tables of statistics, and paragraphs appearing in these columns are not only sometimes inserted in other journals without acknowledgment, but they come back from the East to the West and quoted from the journals which, shall we say, purloined them, they again appear in this country with all the coy graces of a first appearance. That accidents will happen in well regulated Press circles we have a proof only this week. In our issue of September 18 we gave an extract from a magazine called *Colonia*, in which Mr. Elphinstone had written on tea planting in Ceylon. We prefaced this with some remarks of our own on the attraction of tea planting. Our contemporary the *Indian Planters' Gazette* reproduces the entire article and quotes our comments, we feel sure, in absolute good faith, from the *Ceylon Independent*. We make no complaint against either of the journals named, who are, no doubt, not intentional sinners, and usually give credit where it is due. We merely take this opportunity of suggesting that in cases where extracts from our columns are made the source should, when the printer has the necessary type, be quoted. If this is not acceptable the name of this journal being long, there is a really admirable way of meeting the occasion by adding the letters H. and C. M., which is mysterious to the uninitiated and does not necessarily mean anything at all. We would not mention this trifling matter if it were not for the short and simple fact that we write mainly for our own readers, and although it is kind and attentive on the part of other jonrnals in Timbuctoo and elsewhere to honour us by reproducing the gems we set, it occurs to our mind in moments of depression that it is not so conducive to our welfare as they fondly imagine. It is an age of self-denial and hair shirts. Reluctantly, therefore, we surrender the pleasure of seeing our pet paragraphs reproduced without acknowledgment, and say to those who do not quote us: if you find it necessary to the happiness of yourself and your readers to use any extracts from this journal print the name somehow, if only in initials and comparative happiness will be our portion.

NOT TOO MUCH ADULTERATION, BUT QUITE ENOUGH.—The report of the Local Government Board on the adulteration of produce is always pleasant reading in the far-away home of the grower of produce. It proves that the watchful eye of authority is guarding his interests and that if the guardian dozes sometimes he wakes up at times and convicts the offenders. There were for the year 4,093 cases of adulterated samples and 2,313 convictions. Of tea the Commissioners of Customs reported to the Board that the analyst to the Commissioners had analysed 646 samples, and 573 of those samples were considered satisfactory. The remaining 73 samples were reported to the Board, and were disposed of as under: 10 samples (425 packages) were admitted to home consumption; 59 samples (1,524 packages) were restricted to exportation owing to the presence of exhausted leaves and admixture with other substances; and 4 sample (4 packages) were destroyed as being decomposed and unfit for human food. These, we take it for granted, all came from China. Of the 2,046 samples of coffee examined, 204 or 10 per cent were condemned. In 141 of these cases the proportion of added chicory was at least 40 per cent, a few of the samples being almost entirely chicory, though one was sold at the rate of 1s 6d per pound. There were 135 prosecutions, and in 119 cases penalties were imposed amounting in all to £157 17s, only 8 of them being of £5 and upwards. Out of 855 samples of ginger 61 were adulterated; of 182 samples of cocoa 36 were condemned; 353 samples of sugar were examined, and only 6 were found to be adulterated. There were 1,599 samples of pepper analysed, but only 8 were adulterated. This contrasts favourably with the report of a few years ago, when pepper was found to be extensively adulterated. Fines were inflicted in two cases of pepper.

THE LATEST FIBRE.—Sir H. Johnston, Her Majesty's Commissioner in the British Central Africa Protectorate, mentions a plant indigenous to that part of the globe which may have a future of great utility before it. An English firm recently gave their attention to the valuable fibres produced by three species of liliaceous plants of the genus Sanseviera. The Sanseviera grows in great quantities on all the barren, stony ground of the Protectorate, at low levels, especially on the rocky islands in Lake Nyassa. A machine has been invented which is able to turn out enormous quantities of fibres from this plant in a very short space of time, and it would seem as if the barren ground of the Protectorate would prove to be of almost equal value to the rich coffee producing tracts, since this fibre is worth nearly £40 per ton. Moreover, the Sanseviera is of most easy propagation, requires little or no attention, and in three years from the time of planting is ready to reduce to fibre. The fibre has long been used by the natives of Africa and India for making bowstrings, and has been called bowstring hemp,

THE TEA MARKET.

In the Tea market business is active at steady prices. The record deliveries for October should strengthen importers' position, especially as the strain of large imports (Indian) begins to abate. It is evident increased production, at any rate for season 1896-7, will not be more than to meet the universal increasing consumption. Of China Tea a further, though slight, easing in prices has not altered the general position. Ceylon Tea is firm with moderate imports.—*L. and C. Express*, Nov. 13.

WYNAAD PLANTERS' ASSOCIATION.

Proceedings of a general meeting held at the Club, Meppadi, 4th Nov., 1896:—

IMPORT DUTIES.—Read letter from the Secretary, U.P.A., enclosing copies of correspondence between the Secretary U.P.A., the Madras Chamber of Commerce and Messrs. Binny & Co. on the subject of Import duties on Artificial Manures and Tea Seed.

This Association is of opinion that the matter of Import duty on Tea Seed from Ceylon is not of sufficient importance to enter into.

Read letter from the Secretary, U.P.A., asking for the views of this Association on the resolution passed by the Nilgiri Planters' Association with reference to the appointment of a Specialist to enquire into fever. This Association is of opinion that this is a matter that may safely be left in the hands of Government.

CUTCHERRY AT MEPPADI.—Resolved that the Honorary Secretary be instructed to write to the Collector of Malabar, asking, if it could not be arranged that the 2nd class Magistrate of Vayitri should hold Court for 2 days once a month, regularly, at Meppaid; and if so, that due notice of his visit should be sent to the Honorary Secretary and be posted up at the Police Station and Post Office at Meppadi and the Post Office at Vellera Mulla. Also that beat constables be instructed to leave such information at the estates on their several beats.

COFFEE ROBBERY.—Resolved that the Honorary Secretary be instructed to write to the Superintendent of Police, Malabar, with reference to police arrangements during this crop season.

THE TEA MARKET.

In the Tea market another series of auctions (55,000 packages Indian), taxing the buying powers of the trade, have passed off satisfactorily. Prices rule at so moderate a range as to impart confidence, but a big margin exists between the middleman and those paid by the consumer. The gradual extinction of our trade with China is at last attracting serious attention, and some effort, it seems, is likely to be made to resuscitate it. At the prices ruling this season there has undoubtedly been more of it taken for home consumption. The change must proceed from Chinese sources, who have the foundation to favourably compete against all comers. Ceylon tea, its nearest competitor, is not now relatively above China values, as supplies are frequently of a disappointing nature.—*L. and C. Express*, Nov. 6.

TEA IN AMERICA.

New York, Oct. 28.

There is considerable speculative activity in the market, particularly in low-grade tea. Blacks, Japans and Country Greens are all doing better, and in an invoice way are up over 1½ to 2c per pound Fancy grades of Formosa are in light supply and firmly held. The better grades of Japan are steady. —*American Grocer.*

New York, Oct. 30.

While prices have not advanced quotably, there is a very firm tone to the market, holders ignoring all offers below their views and resisting sales at old quotations. There has been some improvement in the demand, which covers all grades and sorts. India and Ceylon teas are steady.

Today at noon the Montgomery Auction and Commission Company will sell 3,158 packages, viz.: 649 half chests Moyune—new season's attractive chops; 511 boxes Pingsuey—new season's; 598 half chests Congou, including fancy Pekoes; 29 boxes Capers; 77 packages India, Java and Ceylon; 1,304 half chests and boxes Formosa, including new season's.—*American Grocer.*

INDIAN TEA SALES.

(From *Watson, Sibthorp & Co.'s Tea Report.*)

CALCUTTA, Nov. 25th, 1896.

15,394 packages changed hands in the sales held on the 19th instant. The quality was above the average, but the demand was hardly so active as before and prices for all grades, although rather irregular, generally favored buyers. There was a fair amount of business done for the Colonies and other places, but the demand from the Bombay side was again very slack.

The average price of the 15,394 packages sold is As. 7-1 or about 8¼d per lb. as compared with 17,550 packages sold on the 21st November 1895 at As. 7-1 or about 7⅞d per lb. and 19,767 packages sold on the 22nd November 1894 at As. 9 8 or nearly 10d per lb.

The exports from 1st April to 23rd November from here to Great Britain are 102,334,515 lb. as compared with 96 529,065 lb. at the corresponding period last season and 90,912,724 lb. in 1894.

NOTE.—Last sale's average was As. 6-8 or about 8¼d.

TELEGRAMS.—Reuter telegraphed from London on the 19th instant.—Offered 51,000, sold 43,000 packages. Common qualities irregular. Finest very firm. Average 8¾d. "Type" 6 9-16d.

EXCHANGE.—Document bills, 6 months' sight 1s 3¾d.

FREIGHT.—Steamer—£1-10-0 per ton of 50 c. ft.

(From *William Moran & Co.'s Market Report.*)

CALCUTTA, Nov. 25th, 1896.

TEA.

The sales on Thursday last were again rather small for this time of year, 15,791 chests only being offered; nearly all of which were sold. Common sorts were a shade easier, while all other descriptions were freely taken at steady prices.

Tomorrow 21,000 chests will be brought to auction

Total quantity of Tea passed through Calcutta from 1st April to 23rd November.

	1896.	1895.	1894.
Great Britain ..	102,988,131	96,398,943	89,271,432
Foreign Europe ..	274,426	219,988	204,635
America ..	1,083,227	881,588	427,563
Asia ..	3,313,494	3,184,128	3,044,128
Australia ..	3,595,811	5,059,247	3,647,421
	111,255,089	105,743.894	96,595,179

DEAFNESS. An essay describing a really genuine Cure for Deafness, Ringing in Ears, &c., no matter how severe or long-standing, will be sent post free.—Artificial Eardrums and similar appliances entirely superseded. Address THOMAS KEMPE, VICTORIA CHAMBERS, 19, SOUTHAMPTON BUILDINGS, HOLBORN, LONDON.

COLOMBO PRICE CURRENT.

(Furnished by the Chamber of Commerce).

Colombo, Dec. 8th, 1896.

Exchange on London: Closing Rates, *Bank Selling Rates*:—On demand 1/3 5-32 to 3-16; 4 months' sight 1/3 3-16 to ¼; 6 months' sight 1/3 7-32 to 9-32 *Bank Buying Rates*:—Credits 3 months' sight 1/3 7-16 to 15-32; 6 months' sight 1/3 17-32. to 9-16; Docts 3 months' sight 1/3 15-32 to ½; 6 months' sight 1/2 9-16 to 19-32.

Coffee.—Plantation Estate Parchment on the spot per bus., R16 to 17.12½ Very scare. Estate Crops in Parchment, delivery no quotations. Plantation Estate Coffee, f.o.b. on the spot per cwt. R84·00 to 87·50. Very scarce. Liberian parchment on the spot per bushel, no quotations. Garden and Chetty Coffee, f.o.b. per cwt. no quotations. Native Coffee f.o.b. per cwt. R60·00 to 63·00. Very scarce.

Tea.—Average Prices ruling during the week: Broken Pekoe, per lb 49c. Pekoe per lb 36c. Pekoe Souchong, per lb 28c Broken mixed and Dust, per lb 23c.—Averages of Wednesday's sale.

Cinchona Bark.—Per unit of Sulphate of Quinine per lb 03c.—1 to 5 %

Cardamoms.—per lb R1·80 to 2·75.

Coconut Oil.—Mill oil per cwt. R14.30. Dealers' oil per cwt. R14·12. Coconut oil in ordinary packages f.o.b. per ton ;R325·00. 330 hhds.

Copra.—Per candy of 560 lb R42·00 to 50·00.

Coconut Cake: (Poonac) f.o.b. per ton, R55 to 70·00. Nominal

Cocoa.—Unpicked and undried, per cwt. R22 50 to 40.

Coir Yarn.—Nos. 1 to 8 { Kogalla per cwt. R9 to 18 / Colombo " R7 to 14.

Cinnamon.—Nos. 1 & 2 only f.o.b. 70½c.—Nominal.
Do Ordinary Assortment, per lb 66½c. do

Ebony.—No sales.

Plumbago:—Large Lumps per ton, R130 to 310
Ordinary Lumps per ton, R130 to 260.
Chips per ton, R70 to 120. Dust per ton, R30 to 90 Very scarce.

Rice.—Soolye per bushel, R3·40 to R3·50.
" per bag, R9·00 to R10·00.
Pegu and Calcutta Calunda.—no quotations.
Coast Calunda per bushel, R3·35 to 4·00.
Muttusamba per bushel, R3·85 to R4·00.
Kadappa and Kuruwe per bushel 3.40 to 3.75
Rangoon Raw 3 bushel bag —no quotations.

Freights.

Cargo.	Per ton London per str. s. d.	N. York per str. s. d.	Trieste per str. s. d.	Mar'lles per str. R. c.	*Hamb', Bremen &c. s. d.
Tea	20/	..	20/	25	20/
Coconut Oil	20/	..	20/	25	20/
Plumbago	17 6	..	20/	25	20/
Coconuts in bags	17/6	..	20/	25	20/
Other Cargo	17/6	..	20/	25	20/
Broken Stowage	10/	..	..	..	..
SAILERS.					
Coconut Oil	..	30/	..	..	..
Plumbago	..	28/9	..	..	..
				Genoa 20/	

LOCAL MARKET.

By Mr. A. M. Chittambalam, 7, Baillie St., Fort.

Colombo, Dec. 12th, 1896.

Garden Parchment :—	Scarce per bushel
Chetty do :—	(Nominal) R15 to 15·50 do
Native Coffee Scarce:—	R65·00 to 66·00 per cwt
do f.o.b. do :—	R70·00 to 71·00 do
Liberian Parchment,	12·50 per bushel (nominal)
do Coffee	63·00 to 64·00 per cwt
Cardamoms.—	1·75 to 2.75 per lb (nominal)
Cocoa.—(nominal)	·00 to 20·00 per cwt do
[R]ice.—Market is steady :—	
R Kazla	R8·50 to 9 per bag
Soolye	9·25 to 9.50 do
Callunda Scarce	9·75 to 10 do
Coast Callunda	3·37 to 3·50 per bushel
Kuruve	3·25 to 3·37 do
Muttusamba	3·50 to 4·75 do

[Ci]nnamon.—Quoted Nos. 1 to 4, at 66c and Nos. 1 and 2 at C170 cents per lb (nominal)

Chips.—Rs5·00 to 87·50

Coconuts.—Ordinary	R35·00 to 40·00	per 1,000	(nominal)
do Selected	41·00 to 43·00	do	do
Coconut Oil.—	14·00 to 14·50	per cwt	do
Copra.—Market steady :—			
Kalpitiya	R44·00 to 45·00	per candy	
Marawila	42·00 to 43·00	do	
Cart Copra	37·00 to 41·00	do	
Poonac.—Gingelly	85·00 to 92·50	per ton	
Chekku	82·50 to 87·50	do	
Mill (retail)	75·00 to 80·00	do	
Ebony.—quotations at	R100 to R195	(nominal)	
Satinwood.—cubic feet	2·00 to 2·25	do	
Halmilla.— do	1·25 to 1·50	do	
Kitul Fibre.—Quoted at	R28·00	per cwt	(nominal)
Palmyra Fibre.—Quoted nominally :—			
Jaffna Black.—Cleaned (Scarce)			
do Mixed	R17·00 to 18·00	per cwt.	
Indian do	R7·00 to 9·00	do	
Do Cleaned	10·00 to 14·00		
Sapan Wood.—Quoted	45·00 to 50·00	per ton	
Kerosne Oil—American	7·50 to 7·55	per case	
do Bulk Russian	2·82 to 2·87	per tin	
do Russian in Cases	R0·00	per case	
Kapok.—Cleaned f. o. b :—	R29·00 to 30·00	per cwt	
do Uncleaned (new)	8·00 to 9·00	do	
Croton Seed	Scarce	do	
Nux Vomica	2·50 to 3·00	do	

CEYLON EXPORTS AND DISTRIBUTION

1895-1896.

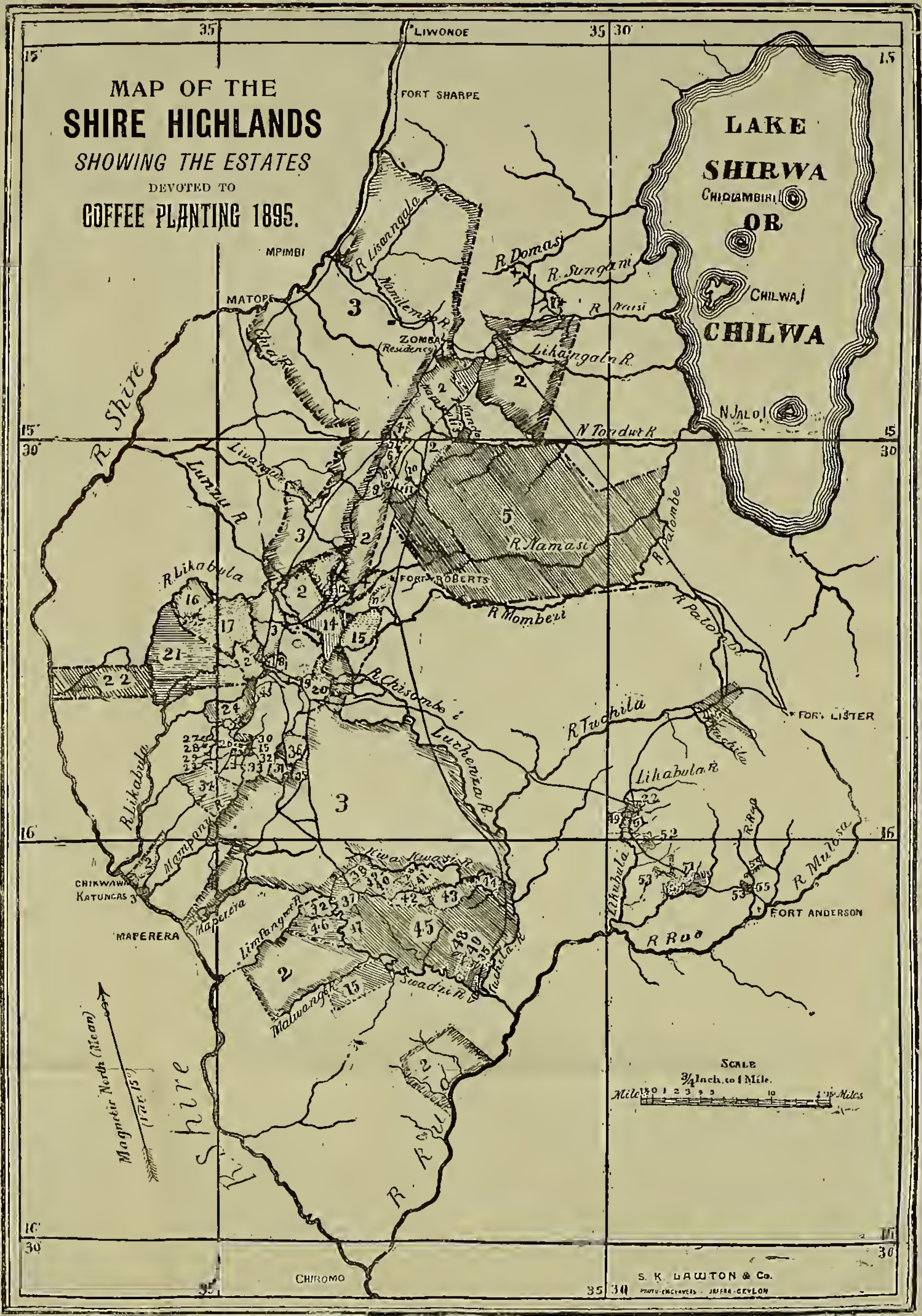
COUNTRIES.	Coffee cwt Plantation	Coffee cwt N'tive	Coffee cwt Total.	Cinchona. 1896 B'nch & Trunk lb	Tea 1896 lb.	Tea 1895 lb.	Cocoa cwt.	C'moms lb.	Cinnamon. Bales lb.	Cinnamon. Chips lb.	Coconut Oil 1896 cwt.	Coconut Oil 1895 cwt.	P'bago. 1896 cwt.
To United Kingdom	12092	142	12234	998926	85539699	77590860	24742	141332	877470	287839	83246	133897	103689
,, Austria	487	..	487	..	31011	5305	97	..	7400	84220	22910	25237	..
,, Belgium	27	..	27	..	31695	10913	147	2000	77400	76604	3314	3904	18332
,, France	1372	..	1372	6478	72185	39480	373	3000	60714	4900	120	404	2005
,, Germany	564	6	570	..	112727	233316	886	74190	462756	134932	15833	13683	38768
,, Holland	76	..	76	..	6120	11381	..	..	..	..	400	401	701
,, Italy	20	..	20	5059	10770	8376	6	..	125566	119168	1917	706	424
,, Russia	144	20	164	..	237624	283198	..	..	..	..	81	..	21
,, Spain	..	..	..	..	50685	58285	..	..	192330	27720	208	101	..
,, Sweden	52	..	52	..	9286	750	..	..	299	112	402	..	195
,, Turkey	..	..	..	..	17304	10417	..	..	..	..	.	..	..
,, India	244	2	246	1379	883447	680795	5	159669	..	..	77092	9364	869
,, Australia	4766	569	5335	..	9657002	8425518	107	..	9308	16968	2441	1983	961
,, America	558	..	558	215037	549220	388725	436	2187	121800	..	53513	140513	135290
,, Africa	8	..	8	..	131038	133872	..	..	3500	5600	4	166	502
,, China	226	..	226	4480	351065	312356	..	200	77400	..	4277	1262	6
,, Singapore	7	..	7	..	93445	29521	469	1067	17336	500	34133	17268	..
,, Mauritius	85	28	113	..	124254	174521	..	..	..	..	..	..	..
,, Malta	..	..	..	..	134750	86245	..	..	..	..	..	..	..
Total export from 1st Jan. to 8th Dec. 1896	20728	767	21495	1231359	98043321		27268	383645	2064779	758563	299891		301763
do 1895	57407	3870	61277	894981	88483834		23922	328633	1982271	798262	348889		295997
do 1894	27720	652	28372	2438993	77887728		18357	252403	1838313	569158	410905		310789
do 1893	49732	451	52183	3459583	77068344		27570	386547	1823417	598694	342320		322493

MARKET RATES FOR OLD AND NEW PRODUCTS.

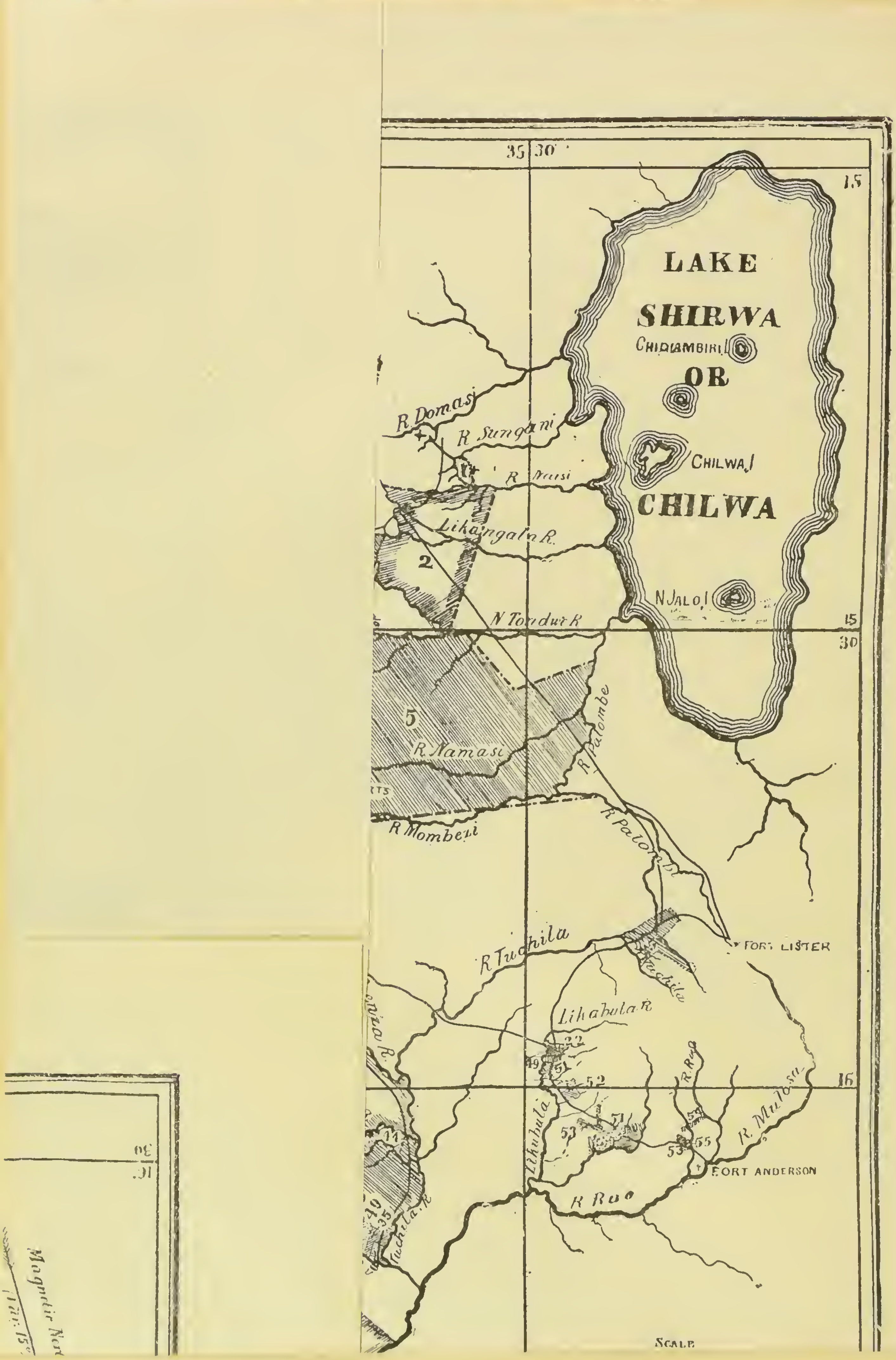
(From Lewis & Peat's Fortnightly Prices Current, London, November 18th, 1896.)

	QUALITY.	QUOTATIONS.
ALOES, Socotrine ...	Fair to fine dry ...	44s a 100s
Zanzibar & Hepatic	Common to good ...	11s a 76s
BEES' WAX,		
Zanzibar & White ..	Good to fine ...	£7 a £8
Bombay Yellow...	Fair ..	£6 a £7
Mauritius & Madagascar..	Dark to good palish .	£6 a £6 12s 6d
CAMPHOR, China ...	Fair average quality ...	120s
Japan ..	,, ,, nom...	125s
CARDAMOMS, Malabar..	Clipped bold bright fine	2s 6d a 3s
	Middling, stalky & lean	2s a 2s 4d
Ceylon.—Mysore ...	Fair to fine plump ..	2s 6d a 5s
	Seeds ...	3s 10d a 4s
,, Tellicherry...	Good to fine ...	2s 9d a 3s 6d
	Brownish ..	2s 6d a 3s
,, Long ...	Shelly to good ...	1s 6d a 3s
,, Mangalore ..	Med brown to good bold	3s a 4s 6d
CASTOR OIL, Calcutta..	1sts and 2nds ...	3¼d a 3½d
Madras ...	...	3d a 3¼d
CHILLIES, Zanzibar ...	Dull to fine bright	30s a 47s 6d
CINCHONA BARK.—		
Ceylon ...	Ledgeriana Chips ...	1d a 3½d
	Crown, Renewed ..	2d a 4½d
	Org. Stem ..	1½d a 3d
	Hybrid Root ...	2¼d a 2¾d
	Chip ..	1¼d a 2d
CINNAMON, Ceylon 1sts	Ordinary to fine quill...	10½d a 1s 1d
2nds	,, ,, ...	9¾d a 1s
3rds	,, ,, ...	9½d a 11½d
4ths and 5ths	Woody and hard ..	8½d a 9½d
Chips	Fair to good ...	3d a 3⅜d
CLOVES, Penang ...	Dull to fine bright bold	6½d a 10d
Amboyna ..	Dull to fine ...	3d a 4½d
Zanzibar	Good and fine bright ...	2 5-16d a 2½d
and Pemba	Common dull to fair ...	2 1-16d a 2 5-16d
Stems ..	Fair ..	1d
COCULUS INDICUS ...	Fair ..	7s 6d a 8s
COFFEE ...		
Ceylon Plantation	Bold to fine bold colory	110s a 115s
	Middling to fine mid ..	103s a 108s
	Low mid. and low grown	97s a 102s
	Smalls ...	87s a 97s
Native ...	Good ordinary ...	70s a 86s
Liberian ...	Small to bold ...	70s a 80s
COCOA, Ceylon ..	Bold to fine bold ...	63s 6d a 73s
	Medium and fair ...	55s a 62s
	Triage to ordinary ...	30s a 50s
COLOMBO ROOT... ...	Fair to good ..	25s a 27s
COIR ROPE, Ceylon ...		nominal
Cochin ..	Ordinary to fair ..	£10 a £15
FIBRE, Brush ..	Ord. to fine long straight	£10 a £22
Cochin ...	Ordinary to good clean	£12 a £17
Stuffing ..	Common to fine	£5 a £6 10s
COIR YARN, Ceylon ..	Common to superior	£12 a £26 10s
Cochin ..	,, ,, very fine ...	£12 a £34
do. ..	Roping, fair to good .	£11 10s a £15
CROTON SEEDS, sifted...	Fair to good	77s 6d a 80s
CUTCH	Fair to fine dry ...	9s 3d a 32s 6d
GINGER, Bengal, rough	Fair ...	15s 6d
Calicut, Cut A	Good to fine bold ..	81s a 85s
B & C	Small and medium .	33s 6d a 74s
Cochin Rough...	Common to fine bold .	28s a 35s
	Small and D's	10s a 27s
Japan ..	Unsplit ...	16s
GUM AMMONIACUM ...	Sm. blocky to fine clean	17s a 36s 6d
ANIMI, Zanzibar...	Picked fine pale in sorts	£10 7s 6d a £18
	Part yellow and mixed	£7 17/6 a £10 10s
	Bean and Pea size ditto	70s a £7 12/6
	Amber and dk. red bold	£4 5s a £9
	Med. & bold glassy sorts	90s a 137s 6d
Madagascar ...	Fair to good palish ...	£4 8s a £6 15s
	,, ,, red ...	£5 a £7 5s
ARABIC E.I. & Aden ...	Ordinary to good pale	50s a 60s
Ghatti ..	Pickings to fine pale ...	25s a 60s
Kurrachee ..	Good and fine pale	55s a 60s
	Reddish to pale selected	35s a 45s
Madras ...	Dark to fine pale	37s 6d a 45s
ASSAFŒTIDA	Clean fr to gd. almonds	40s a 70s
	Ord. stony and blocky	15s a 35s
KINO ..	Fine bright ..	£45 a £55
MYRRH, picked ...	Fair to fine pale ...	80s a 90s
Aden sorts	Middling to good ..	33s a 65s
OLIBANUM, drop	Good to fine white ...	34s a 60s
	Middling to fair ...	20s a 31s
pickings	Low to good pale ...	11s a 12s 6d
siftings	Slightly foul to fine ...	9s 6d a 14s
INDIARUBBER, Assam	Good to fine ...	1s 10d a 2s 3½d
	Common to foul & mxd.	3d a 1s 6d
Rangoon ..	Fair to good clean ...	1s 4d a 1s 11½d
Borneo ...	Common to fine ..	1s a 1s 7d

	QUALITY.	QUOTATIONS.
INDIARUBBER, *(Contd).*		
Java, Sing. & Penang	Foul to good clean ..	1s 3d a 2s 3d
Mozambique	Good to fine Ball	2s 2d a 2s 6d
	Ordinary to fair Ball	1s 2d a 2s 1¼d
	Low sandy Ball	10d a 1s 1d
	Sausage, fair to good	1s 4d a 2s 5½d
	Liver and livery Ball	1s 3½d a 2s 1½d
Madagascar	Fr to fine pinky & white	1s 11d a 2s 5d
	Fair to good black .	1s 3d a 1s 10d
	Niggers, low to good .	10d a 1s 5d
INDIGO, E.I. ..	Bengal—	
	Shipping mid to gd violet	4s 4d a 5s 1d
	Consuming mid. to gd.	3s 4d a 4s 1d
	Ordinary to mid. good	2s 8d a 3s 2d
	Mid. to good Kurpah...	2s a 2s 10d
	Low to ordinary	1s a 1s 5d
	Mid. to good Madras .	1s 4d a 2s 6d
MACE, Bombay, & Penang	Pale reddish to fine .	1s 7d a 2s 9d
	Ordinary to fair ..	1s 2d a 1s 6d
	Chips and dark	1s
MYRABOLANES, Madras	Dark to fine pale UG ..	3s 9d a 5s 6d
	Fair Coast ...	4s 6d
Bombay ..	Jubblepore ...	4s a 6s 6d
	Bhimlies ...	4s 3d a 7s 6d
	Rhajpore &c. ...	4s a 6s
Bengal ..	Calcutta ..	4s a 6s
NUTMEGS—	64's to 57's ...	3s a 3s 2d
Bombay & Penang	112's to 67's ...	1s 1d a 2s 11d
	160's to 130's ...	9d a 1s
NUTS, ARECA ...	Ordinary to fair fresh .	13s 6d a 15s
NUX VOMICA, Bombay	Ordinary to middling ..	4s 6d a 6s
Madras	Fair to good bold fresh .	6s a 7s 6d
	Small ordinary and fair	4s 6d a 7s
OIL OF ANISEED ...	Fair merchantable	8s 6d
CASSIA ..	According to analysis..	6s 6d a 8s 6d
LEMONGRASS ..	Good flavour & colour ..	2½d
NUTMEG ...	Dingy to white	3½d a 4d
CINNAMON ...	Ordinary to fair sweet .	4d a 1s 3d
CITRONELLE ..	Bright & good flavour	1s 2d a 1s 4d
ORCHELLA WEED—		
Ceylon ..	Mid. to fine not woody	11s a 15s
Zanzibar. ..	Picked clean flat leaf .	10s a 20s
	,, wiry Mozambique	15s a 17s 6d
PEPPER - (Black)—		
Alleppee & Tellicherry	Fair to bold heavy ..	2¼d a 2½d
Singapore ...	Fair	2½d
Acheen & W. C. Penang	Dull to fine	2d a 2⅜d
PLUMBAGO, lump ..	Fair to fine bright bold	15s a 17s 6d
	Middling to good small	3s 6d a 13s
chips ...	Dull to fine bright	1s 6d a 8s 9d
dust ...	Ordinary to fine bright	2s a 6s
SAFFLOWER ...	Good to fine pinky ...	85s a 90s
	Middling to fair ..	80s
	Inferior and pickings ..	60s a 65s
SANDAL WOOD—		
Bombay, Logs	Fair to fine flavour .	£30 a £50
Chips	... ...	5s a £3
Madras, Logs	Fair to good flavour ..	£30 a £50
Chips	Inferior to fine .	£4 a £8
SAPAN WOOD, Bombay	Lean to good ...	£4 a £5
Madras	Good average ...	£4 a £5 nom.
Manila	Rough & rooty to good	£4 10s a £5 15s
Siam	bold smooth ..	£6 a £7
SEEDLAC ..	Ord. dusty to gd. soluble	70s a 80s
SENNA, Tinnevelly ...	Good to fine bold green	4d a 8d
	Fair middling medium	2¾d a 4½d
	Common dark and small	1d a 2d
SHELLS, M. o'PEARL—		
Bombay ...	Bold and A's	£4 10s
	D's and B's	£4 10s a £4 12s
	Small	85s a 90s
Mussel ...	Small to bold ...	20s a 50s
TAMARINDS, Calcutta ..	Mid. to fine bl'k not stony	9s
Madras ..	Stony and inferior	6s a 7s
TORTOISESHELL—		
Zanzibar and Bombay	Small to bold dark ... mottle part heavy ...	19s a 20s 6d
TURMERIC, Bengal ..	Fair ..	8s 6d a 9s
Madras ..	Finger fair to fine bold	11s 6d a 12s
Do.	Mixed midling, [bright	10s 6d
Do.	Bulbs	8s a 9s
Cochin ...	Finger	10s
	Bulbs	7s 6d a 8s
VANILLOES—		
Mauritius and 1sts	Gd. crystallized 3½ a 9 in.	19s 6d a 32s
Bourbon 2nds	Foxy & reddish 4½ a 8 ,,	17s a 22s
Seychelles 3rds	Lean and inferior ..	10s a 16s
VERMILION .	Fine, pure, bright ...	2s 4½d
WAX, Japan, squares	Good white hard ,,	52s 1½d


MAP OF THE
SHIRE HIGHLANDS
SHOWING THE ESTATES
DEVOTED TO
COFFEE PLANTING 1895.
LAKE
SHIRWA
OR
CHILWA
LIWONDE
FORT SHARPE
MPIMBI
MATOPE
ZOMBA (Residency)
FORT ROBERTS
FORT LISTER
FORT ANDERSON
CHIKWAWA
KATUNGAS
MAPERERA
CHIROMO
R. Shire
R. Domasi
R. Sungani
R. Namasi
R. Mombezi
R. Palombe
R. Likabula
R. Chisombe
R. Tuchila
R. Mulosa
R. Ruo
Lihabula R.
Likaingala R.
Swadzi R.
Magnetic North (Mean) (Var. 15°)
Scale
3/4 Inch. to 1 Mile.
S. K. LAWTON & Co.

SEE PAGE 482.


35 30'
15
LAKE
SHIRWA
CHIDIAMBIRI.I.
OR
CHILWA.I
CHILWA
NJALO.I
15
30
R. Domasi
R. Sungani
R. Naisi
Likangala R.
2
N Tondwe R.
5
R. Namasi
R. Palombe
R. Mombezi
R. Palombe
R. Tuchila
FORT LISTER
Likabula R.
R. Mulosa
16
FORT ANDERSON
Likhubula
R. Ruo
Scale